1.

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Containing the Management and Breeding of Canary Birds. Monthly Observations in the Orchard, Kitchen and Flower Gardens Observations in Husbandry, in the Manuring, Plowing, Weeding, and Enriching of Land. The Vermin Killer; teaching how to destroy Bugs, Lice, Fleas, Mice, Rats, Moles, Weasels, Pole-cats, Badgers, Foxes, Otters, Wasps, Worms, Snails, Flies, Moths, Pismires, Caterpillars, Spiders, &c. Those rare secrets how to catch Fish, and make Bird Lime,

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FIFTH EDITION.

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By ANDREW HAMBLETON.

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Wm Hambleton

THE

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THE

THE

SCHOOL OF ARTS;

OR,

New Book of uſeful Knowledge.

CHAP. I.

The MANAGEMENT and BREEDING of CANARY-BIRDS.

CANARY BIRDS that are kept tame, will breed three or four times in the year; they uſually begin in April and breed in May and June, though ſometimes in July and Auguſt; towards the middle of March begin to match your birds, putting one cock and one hen in a cage; and when they have been ſo long together that they are perfectly reconciled and much pleaſed with each other, towards the end of March or the beginning of April, put them into the breeding cage for that uſe; let it be full large, ſo that the birds may have the more room to fly and exerciſe themſelves; let there be two boxes in the cage for the hen to build in: becauſe ſhe will ſometimes hatch a ſecond brood before the firſt are fit to fly, leaving the care

of

of them to the cock, to feed and bring them up, whilſt ſhe breeds in the other box; therefore, if ſhe has not a ſpare box to build in, ſhe will be apt to make her neſt upon the birds (as it ſometimes happens) and ſmother them, or build ſo near, that they will ſpoil one another. Whilſt your birds are a-pairing feed them with ſoft meat, egg, bread, mawſeed and a little ſcalded rape ſeed, hardly a third part of egg; this laſt and the bread grated fine, and ſo mix it altogether. When they have young ones give the ſame ſoft victuals freſh every day, and let them have freſh greens likewiſe, ſuch as cabbage-lettice now and then; but give them more conſtantly chickweed with ſeeds upon it; towards June ſhepherd's purſe, in July and Auguſt plantain, and before they have young ones give them groundſoil with ſeed upon it. I would recommend to ſuch perſons as breed only a few birds for their diverſion, to uſe very large cages, it being much the beſt way; but thoſe who intend to breed a number, ſhould prepare a room for that purpoſe.

Let the ſituation of it be ſuch, that the birds may enjoy the benefit of the morning ſun, which is both delightful and nouriſhing; and let wire inſtead of glaſs be at the windows, that they may have the advantage of the air, which will add to their health and make them thrive the better; keep the floor of the room clean, ſometimes ſifting fine dry gravel or ſand upon it, and often removing the dung and other foul ſtuff. You muſt take care to fix neſt boxes, and back cages in every convenient corner and place of the room, at leaſt twice the number that you have of birds, that they may have the more variety to chooſe a lodging to their minds; for ſome love to build high, and ſome very low; ſome in a light place, and others will chooſe a dark place to build in.

There ought to be two windows in the room, one at each end, and ſeveral perches at proper diſtances, for the birds to ſettle upon as they fly backwards and forwards.

You

You may ſet likewiſe a tree in a convenient part of the room; it will divert the birds, and ſome of them will like to build in it; you muſt obſerve that their neſt is ſecure from falling through, and if in danger, to tie the tree, cloſer to prevent it, and they will hatch there as well as in any other place. Remember not to put too many birds together; eight or ten pairs are enough for a middling room: When your birds are firſt paired, as directed before, turn them into the room, where they will live, as it were, a conjugal life; and notwithſtanding there are ſeveral male and female birds in the ſame room, one cock and one hen, as they firſt coupled together, will keep conſtant to each other, and both concur and aſſiſt in ſitting and feeding their young; for the cock-bird takes his turn in building the neſt, ſitting upon the eggs, and feeding the young, as well as the hen.

Of their NESTS, and how to order their YOUNG.

You muſt furniſh the birds with ſtuff for making their neſts, ſuch as fine hay, wool, cotton, and hair; let theſe materials be thoroughly dry; then mix and tie them up together in a net, or ſome ſuch thing, ſo that the birds may eaſily pull it out as they want it, and let it be hung in a proper place in the room for that purpoſe.

They build a pretty neſt, about which they will ſometimes be ſo induſtrious, as to begin and finiſh it in one day, though they are generally two or three days in making their neſt; the hen lays commonly four or five eggs, and ſits fourteen days.

When the young are hatched, leave them to the care of the old ones to nurſe and bring them up, till they can fly and feed themſelves. The hen, as I ſaid before, by reaſon of their rankneſs in being kept together, and provided with all things neceſſary at hand, without any trouble in ſeeking their food, &c. will ſometimes build and hatch

hatch again before the firſt can ſhift for themſelves: the care of which ſhe transfers to the cock-bird, who will feed and nurſe them himſelf, ſupplying the part of both parents, while ſhe attends and brings on her new progeny: But it is not ſo with thoſe birds that live at large in the fields: they obſerve their ſeaſon for breeding, and after they have hatched, company with the brood till their young are grown up, and able to provide for themſelves.

When the young canary birds can feed themſelves, take them from the old ones; and if they are flying about the room, to catch them, bring a ſpare cage with ſome ſoft victuals in it, taking the other meat that is in the room away, and placing the cage there in it ſtead, with the door opened and a ſtring faſtened thereto; then ſtand at a diſtance, and the old ones will preſently, for the ſake of the meat, intice the young ones into the cage; then pull the ſtring, and ſhut in as many as you can, and cage them.

Let their meat be the yoke of an egg hard boiled, with as much of the beſt bread, and a little ſcalded rape-ſeed; when it is boiled ſoft, bruiſe the ſeed fine, and put a little maw-ſeed amongſt it, and mix it all together, and give them a ſufficient quantity freſh every day; never let it be ſtale or ſour: Beſides this, give them a little ſcalded rape-ſeed and canary by itſelf.

You may keep them to this diet till they have done moulting, and afterwards feed them as you do the old ones taking away their ſoft meat, unleſs at any time they are ſick, then continue it.

CHAP.

CHAP. I.

Monthly Obſervations throughout the Year.

What is to be done in the Orchard, Kitchen Garden, and Flower-Garden.

JANUARY's Obſervations.

IN your orchard this month, lay bare the roots of fruit trees in open weather, nouriſh them with good rotten ſoil; prune thoſe trees that are to ſtand, and tranſplant the younger; prune and nail up wall-fruit; now cut the vines cloſe, moſs the trees that are encumbered with a copper ſcraping iron: gather cions and grafts, and turn your dunged ground.

In the kitchen garden lay heaps of good mould, mixed with dung, to rot againſt ſpring, for your uſe; and if the weather be open, ſet early peas and beans; ſow the ſeeds of radiſh, ſpinage, charvil, lettice, corn ſallad, and make up your hot beds to ſet things in, that are to be forced and come out of their natural ſeaſon.

In the flower garden; now is the time to preſerve the July flowers and ericulas from ſnow and overmuch wet, by lying the pots or boxes, on one ſide they are planted in, ſupport mat coverings over them on hoops, archwiſe, about a foot from them; yet, if the ſun ſhine clear, once a week air them, by opening in the middle of the day; but by no means forget to cover them again as ſoon as the ſun be much declined; and now and then looſen the mould, and ſcatter freſh mould, mixed with a little dung on the top.

FEBRUARY's Obſervations.

In this month, take care to cover the roots of your fruit-trees that were laid open the month before; plant, if the weather be open, and towards the latter end of

the month, graft pears, apples, plumbs, cherries, and cleanſe the trees of defects left undone in the laſt month.

In the kitchen-garden continue to ſow and ſet beans and peaſe, radiſhes, parſnips, aſparagus; remove cabbage plants and potatoes, Jeruſalem artichoaks, winter early colliflowers; ſow parſley, ſpinage, and other pot herbs that will endure the weather; raiſe hot-beds for muſk-mellons and cucumbers, &c. ſow the ſeeds in them at full moon, ſteeping them in a little warm milk, you may put the ſeeds in a hole, cover them till they come above ground, then air them as the ſun is favourable, but cover them at other times.

In the flower-garden, ſow in mellow earth, aricula ſeeds in pots, but not too thick; keep your choiceſt flowers in pots or caſes warm, with tilted coverings; the weather being open, this month you may plant early anemonies; ſow choice ſeeds in warm yellow mould, and keep every thing as much as may be, from too much wet and cutting ſharp air.

MARCH's Obſervations.

In the orchard proceed to graft choice fruits, as nectarines, apricots, wall-plumbs, peaches, and the like; raiſe the earth about the roots of choice trees; lay layers of young ſprouts, cutting them underneath, that they may take root; enrich the earth you lay them in, that they may do it very ſoon; ſtake and bind up the weak ſhrubs and plants, that are apt to be much ſhaken and looſened by the wind.

In the kitchen-garden ſet ſlips of ſage, roſemary, lavender and thyme; ſow leeks, radiſh, endive, ſuccory, parſnips, beets, ſkirrets, ſorrel, parſley, bugloſs, burrage, charvil, lettice, onion, garlick, purſlain, peaſe, carrots, turnips, cabbage, marjoram, creſſes, fennel, ſtring ſtrawberry beds; place glaſſes over your melons and cucumber plants, till your remove them from the hot beds; tranſplant medicinal herbs.

In

In the flower garden, ſow ſweet william, ariculas, wall-flowers, ſtock gilliflowers, candy tufts, venus looking glaſs, French honey-ſuckles, cowſlips and primroſe ſeeds, lark-heels, campions, lichins, campannula, indian ſcabious, pink or gilliflower ſeed, &c. and in your hot beds, French mary golds, amaranth, Naſturium Indicum Mirabilia Peruviano, the ſenſible humble plant, &c. Tranſplant gilliflowers and ariculas, if the weather be favourable, weed after a gentle ſhower; earth upon unmov'd gilliflowers and uriculas.

APRIL's Obſervations.

In the orchard cut cions for grafts; take ſuccory from the roots of grown trees, earth up the roots pretty high, ſmoak your orchard in the evening with wet hay or ſtraw, ſcattering pitch or brimſtone on it, to prevent inſects biting of the tender buds, and morning froſts from nipping them.

In the kitchen garden ſow hyſſop, marjoram, baſil, thyme, lettice, ſcurvy-graſs, winter ſavory; ſlip ſhrubs after a ſhower; ſow radiſh, marigolds, carnations, &c. ſlip artichoaks, lavender, thyme, roſemary; ſet French beans, and remove tender ſhrubs.

In the flower garden, now the ſeaſon requires you to ply your taſk to the purpoſe; continue hot-beds for exoticks, that without them cannot be brought to perfection, and remove not into the air, till the common earth can give them a ſufficient warmth; take out Indian tuberoes and divide their off ſets from them, but beware in doing it, you break not the phangs; put them in natural rich earth in pots, ſo plung your pots in a bed, moderate warm, but water them not till they ſpring up in dry weather, when they are well ſprung up, water them freely, and blowing in Auguſt, they will produce a curious flower: ſhade your beſt tulips from too much heat of the ſun, as alſo your ſeedling ariculas, or the latter will go near to die; if any of them be ſtripped, remove them from the reſt, leſt they infect them, and make them change their natural colours, and this month continue weeding.

MAY's Obſervations.

In your orchard now begin to inoculate, as you find your buds prompt and ready, which take off the middle ſprout, ſmoak your orchard ſtill as before; for now flies and caterpillars are much abroad.

In the kitchen-garden, thin your ſallading and other herbs, that what remains may grow more kindly, and nouriſh better; leave the ſtrawberry beds, that the flowers and knitberries may have the better benefit of the ſun; ſtrew lime and pot aſhes to deſtroy inſects in the partitions, alleys, or ſides of the beds or furrows.

In the flower garden, tranſplant Flos Africanus, Amaranthus, Naſturtium Indicum, Mirabilia Peruviana, and ſuch like choice flowers; gather the ſeeds of anemonies as the dew riſes, leſt it be loſt by the winds blowing it away; ſow hot aromatic herbs, plant ſtock gilliflowers in beds, and ſuffer not weeds to ſeed. Let your mucal ſtraw ſmoke through your orchard, when the wind is eaſterly, or N. E. hinder blights, and kills vermin.

JUNE's Obſervation.

In the orchard, inoculate apricots, nectarines, peaches, cherries, apples, plumbs, pears, and gather ſuch fruits as the ſeaſon produces, for drying, candying, or preſerving, and for the preſent uſe of your table.

In the kitchen-garden, gather ſuch herbs as you would keep dry for uſe all the year, in the full of the moon, when the ſun has dried the wet from them; ſow lettice, ſharvil, radiſh, diſtil aromatic plants, water well after ſun-ſet.

In the flower-garden, tranſplant autumnal cyclamen; gather the ripe ſeeds of choice flowers; inoculate jeſſamine, roſes, and roſe ſhrubs; take up anemonies, ranunculus and tulip roots, ſo keeping them in dry boxes or ſand, that they do not mould or rot, till you may replant them; lay July flowers, which will in ſix weeks ſtrike root, ſo that you may tranſplant them into light

loamy

loamy earth, mixed with good rotten ſoil, and in winter, to ſave room preſerve them from too much wet; and what good gilliflowers are now blown, preſerve them from ſeed, ſuffering them to have but a few layers, ſo the pods will be filled with the fairer ſeed; take not ſeed from thoſe that break their pod, and e'er you gather it, obſerve the ſun has well ripened it.

JULY's Obſervations.

In the orchard, water your plants and layers of trees, prune peaches and apricots, leaving the moſt proper ſhoots for bearing, ſo that they may commodiouſly ſpread on the wall; ſtop the luxuriant branches of vines, at the ſecond joint above the fruit.

In the kitchen garden, ſet ſweet herbs you would have run to ſeed; ſow lettice, radiſh, charvil, and other ſallads, that may recruit the ſtock that is waſted.

In the flower garden, ſlip ſtocks and other woody plants and flowers; lay myrtles, jeſſamines, and other greens, and make trial of orange trees, for if they take they will certainly be more during, and leſt ſubject to be hurt by cold; lay gilliflowers that were not ready for it before, and cut of withered ſtalks or flowers; clip box, if out of order: ſow anenomy ſeeds in fine ſifted rich earth, in beds or boxes; take up early autumnal cyclamens, and as ſoon as may be, replant them in fit ſoil, gather early cyclamen ſeeds and preſently ſow it in pots; the end of this month ſift your off-ſet beds of tulips: as alſo for anemonies, ranunculus, &c. ſo that they be well prepared for replanting with ſuch things as you have ready in pots, or to ſet in natural ground till the next ſeaſon; as Mirabilia Peruviana, Naſturitum Indicum, and obſerve, that every thing in your garden be well cleanſed and ordered.

AUGUST's Obſervations.

In the orchard, take away branches that are incumbering or ſuperfluous; prune ſuckers, and if you inoculate in this month let it be early. In

In the kitchen garden, ſow colliflowers and cabbages for winter; plant alſo marigolds, corn ſal ad, lettice, parſnips, carrots, onions, ſpinage, angelica, curled endive ſcurvy graſs, columbines, lark heels, iron coloured foxgloves, holihocks, and the like; tranſplant lettice for winter ſtore; take up full grown onions, garlic, &c. gather hot-herbs for keeping all winter, and to preſerve others growing, clip them about a handful high before the full moon: ſow charvil and purſlain, and gather the ripe ſeeds, berries, or ſhrubs.

In the flower garden, tranſplant bulbs or lillies, and other bulbous roots that are to remain in the ground: and now you may ſecurely remove, lay perennial greens, and new earth auaicula pots; tranſplant and divide their roots into a light, rich earth; do the like by oxlips and choice primroſes; alſo campions or linchins, carcidonices; tranſplant ſeedling anemonies; ſet ſpider-wort, colchiums and frittilaries, and begin to make up your garden for the winter.

SEPTEMBER's Obſervations.

In the orchard in dry weather, begin to gather ripe winter fruit, do it not till the ſun has exhaled the moiſture, for if ſo, they will ſpeck and rot; have a dry loft to lay them in, in wheat ſtraw or ſhavings; pinch them not in gathering, for that rots them.

In the kitchen-garden you may continue to ſow radiſh, ſpinage, lettice, and winter herbs; tranſplant moſt herbs proper for eating or medicines; alſo aſparagus roots, ſtrawberries and artichoaks: clear your alleys and turn up vacant grounds.

In the flower-garden, take care of the choice plants and flowers, and cover ſuch, as you remove not into the conſervatory before the end of the month, if the weather come ſharp, and thus preſerve your Marum Syriacum, Ciſtus, Nocte Olens Germanicum, Flos Cardinalis: choice ranunculus, ſeedling arbitus, anemonies; the covering of mat or canvas, being warm and cloſe, but archwiſe a foot above

above them, nor to preſs or injure them; place them if in pots or caſes, againſt a ſouth wall, and let them ſtand ſometimes airing in the middle of the day, when the ſun ſhines, till April; this month plant tulips and all bulbous roots that are nōt very choice, but the choiceſt reſerve to the end of the next month; ſow auriculus, crocus, cowſlips, primroſe ſeeds, and ſcatter a little unſlaked lime or powder of brimſtone among the moulds, to prevent inſects deſtroying the ſeed.

OCTOBER's Obſervations.

In the orchard, this month prune what is wanting, looſing the earth about the roots of trees, the better to enable them againſt the cold; plant and tranſplant ſuch trees as have their leaves fallen off, alſo tranſplant wall-trees that are of two years grafting or more; at the end of this month, you may lay bare the roots of old unthriving trees, or ſuch as bloom over haſtily, or have their fruit dry; the beſt time is in the moon's decreaſing; ſow cions before gathered and kept in ſand till now; ſet them three inches deep, the ſharp ends uppermoſt; cover them with fern or ſtraw, againſt the cold blaſts, but in the ſpring remove it.

In the kitchen-garden, ſow ſtill winter ſallads and roots; dig and trench the grounds, laying it light in the ridges, that the froſt may mellow it; prepare dung for the trenches, to mix with the mould in the ſpring, and trench your alleys for the rain or ſnow water to paſs away that it may not lie ſobbing to cauſe ſterility in the earth.

In the flower-garden, ſet ſuch choice tulips as are not yet diſpoſed of; ſow all their ſeeds; plant anemonies and auriculus in prepared earth: and as ſoon as they appear above ground, cover them from the froſts, or they die; remove the choiceſt gilliflowers, where they may be ſheltered from the wet and ſharp winds; trim them up with freſh mould, and cover ſuch as cannot be removed, leſt the ſnow deſtroy them.

NOVEMBER's

NOVEMBER's Obſervations.

In the orchard, be careful to ſupply your nurſery with ſtocks for grafting; lay bare the roots of old fruit trees, and lay warm dung about them; moſs and prune them.

In the kitchen garden, turn up the melon and cucumber ground, mixed with dung, lay the mould in ridges, that it may mellow againſt the ſpring; trench and fit up your ground deſigned for artichoaks, crop aſparagus, and cover it well with dung or wet litter, and prepare your beds to plant it in the ſpring; ſow and ſet early peaſe and beans.

In the flower-garden, cover peeping ranunculus, and ſow auricula ſeeds; plant fiberous roots; as alcea frutex roſes, ſyringas lilax, &c. And ſee that no tender roots, that cannot be conveniently removed, be uncovered.

DECEMBER's Obſervations.

In the orchard, plant vines and ſtocks for grafting; prune trees that are well grown, and ſtandards; alſo wall trees bearing fruit.

In the kitchen-garden, you may yet continue to ſet or ſow early peaſe or beans; trench ground, and dung it, that ſo you may make commodious borders in the ſpring; you may now, if the weather be open, tranſplant young fruit trees, ſuch as be hardy, but not thoſe that are too much ſubject to be pierced by the cold winds.

In the flower garden, take care that your anemony, ranunculus and gilliflowers, that are choice, be not expoſed to the wet, ſharp winds, or nipping froſts; but if the weather be open, ſet the beſt ranunculus in a bed of old rotten thatch or ſtraw, which having been mixed with choice mould that is rotted, and near turned to earth, with good mould above and below them; ſet in a rich loamy mould the beſt anemonies; let it be finely ſifted through a wire ſieve, and this done, you will have time to refreſh yourſelf, and, for a while, reſt from your labour, to enjoy in due ſeaſon the profit and pleaſure of it. Some

Some useful Obſervations relating to Gardening.

Gardens are ſeldom remote or by themſelves, but near dwelling-houſes, and the ſituation thereof ought to be in a free and open air to the eaſt and ſouth, and the ſouth eaſt ſhelter; and the north defended by tall trees, by the houſe, or indeed by ſouth, which is better than walls, for walls to trees are not ſo good, becauſe they give too great a reflexion of heat in ſummer, and likewiſe hinder the cool, ſerene air that often come from thence. Tall trees break the wind and fierce air, but in ſpring are ſome-times damage the moſt delicate plants and flowers affording moſt pleaſant ſweet air and ſhade in hot weather.

As to your ground, the quality thereof ought to be enquired into: and it is a great happineſs to enjoy good ground, for it will yield more than that which is mended at great coſt and charge. The quality of your ground is to be regarded, as weather it be ſoft or ſtrong, light, dry or moiſt, and how to chuſe proper trees to plant it with-al, alſo what ſort is proper to mend thoſe that grow on dry, warm ground, and make them bear the beſt ſorts of fruit. Thoſe that grow on moiſt ground produce large fruit, tho, not ſo pleaſant or well taſted as the former; as you may obſerve in wet or dry years. All land proper for wheat, barley, rye, beans, peas, &c. are kind y for orchards; the moſt improper is extreme hot and dry ſands; and on the contrary, grounds that are very wet and cold.

In ground that is moiſt, don't dig your holes too deep, but heighten your ground, and be careful before you plant your trees, that you cut the roots that ſhoot down, more eſpecially the pin roots; or elſe you muſt put buſhes underneath, that the water ſhoot off, and the root ſtrikes not too deep in the cold earth. The upper ground is always the beſt, for what is deep in the ground has not felt the heat of the ſun, nor received the ſweet moiſture of rain or dew.

That an Orchard may always bear Fruit plentifully.

To do this, you muſt obſerve when there is an eaſterly or north eaſterly red wind for that is always accounted a blighting one; if you live near heathy ground, then in

ſummer dry 4 or 500 turfs, but if not take three or four armfuls of ſtraw, hay, or fern, not too wet nor dry, and obſerve which way the wind blows in your orchard, where laying an armful of mucky ſtraw in divers places according to the bigneſs of your orchard, get ſome dry ſticks light them, and put them under your ſtraw; when kindled it will ſmoke and ſmother, and the wind will carry it over the whole orchard. This continue till the wind turns about weſterly, and it certainly kills caterpillars, flies and vermin that blighting winds bring; other winds do no harm; obſerve but this, and you will have plenty in the worſt of years; and this way you may preſerve your wall fruit from froſts.

If you cover cherries, plumbs, or other fruit trees, with rough canvas, or other cloth in ſummer, and wet the cloth often, it will keep the fruit back a long time, that you may have it when others are gone.

As for ſeeds and roots, and all other matters requiſite to be known, I refer you to peruſe the Gardiner's Pocket-Book, ſold by moſt of the Bookſellers, price ſix-pence.

The miſcarriages and diſappointments that are met with in planting, proceed, firſt, from want of knowledge which are the beſt and propereſt ſorts of plants for fruit, and often uſing the worſt. Secondly, for want of their being well ordered and managed after they are planted. Thirdly, ſome ſeaſons have of late proved bad, and ſpoiled fruits, though the greateſt care and ſkill have been made uſe of.

To remedy theſe inconveniences, endeavour to find out ſuch gardeners as will deal faithfully by you, and ſuch as have judgment to know the vaſt difference of fruit, for there are ſeveral ſorts of fruit, which ſome call by one name, and ſome by another; and miſtakes of this kind often cauſe quite a difference for to be ſet; not proper for your purpoſe, being neither proper for your ſoil nor expoſure, and ſeldom or never come to maturity; nay, tho' you have the beſt, if the ſoil and expoſure be not proper, they may grow, but will not arrive at that perfection or maturity which thoſe do that are ſown or planted

ed in a proper and agreeable ſoil: therefore let your gardener be acquainted with the aſpect of the wall you deſign to plant againſt, as alſo the height and extent of it, and what ſort of earth it ſtands on, whether hot and dry, or cold and moiſt, that he may regulate and furniſh the whole plantation with trees proper and neceſſary.

The well ordering and managing of trees to be chiefly regarded; for if you plant againſt an old wall, where other trees have died the year before, and put them in juſt where the other were; it is great odds but your expectation is fruſtrated. Or if it be a new wall, if the earth it is ſet in be not good and proper, tho' you fill up your boarders with good earth, it will return back again, and ſo your fruit will be ſmall, and have little taſte or goodneſs. Therefore uſe a proper depth and wid h, with good earth, and let your fruit trees be carefully planted and headed in their proper times and ſeaſons, and likewiſe watered in ſummer, with the borders cleared from weeds; let nothing be ſown by them, as beans, peas, &c. nor yet any flowers, for all theſe ſuck away the nouriſhment of them; and be ſure let all your fruit trees be well pruned, and the fruit carefully picked and looked after, or you will never obtain what you expect.

As to the ſeaſons; when you have uſed all your endeavours to plant and graft according to the nature of your ground, the various ſeaſons (either too much rain or too much cold) give a quite different turn to your fruit; ſometimes it will prove ſmall, ſometimes watery, and of little or no value; nay, you would ſcarce believe the ſame trees could produce ſuch different fruit; therefore, if when you have uſed the proper means, your expectation is fruſtrated, what muſt be the fate of thoſe who are careleſs, and perhaps plant pears, apricots, peaches, &c. not regarding the ſeveral aſpects againſt the wall which is required; as, when they ſhould plant againſt a ſouth, they do it againſt a north or north eaſt wall, &c. Likewiſe obſerve in trees you are to plant againſt a wall, you do not plant them for dwarfs, for then they will not come to their due perfection.

Great allowances muſt be made for the ficklenefs of the ſeaſons, the diverſity of ſoils and climates which are almoſt numberleſs, and to the nature of the tree and ſtock, and to the way that trees grow to the greateſt perfection; theſe are things that require mature conſideration, and a quick apprehenſion, to balance the opinions of proper judges.

It is a great matter to know the nature of the ſeveral ſoils, their infirmities, and their proper remedies, with the application required to invigorate exhauſted mould, ſweeten the foul and tainted, reduce the ſour, harſh, ſtubborn, dry and over moiſt and diliated earth to its genuine temper and conſtitution; and what ſituations and aſpects are moſt proper for the ſeveral ſorts of dwarf, ſtandard, and other fruit trees.

The requiſite qualifications of a good gardener are ſuch as theſe, viz. He ſhould be a middle aged man, vigorous and active, one of experience and a large capacity, diligent, honeſt, and good natured, which are qualifications neceſſary for every perſon.

As for the expoſure of gardens, if they be of a ſtrong earth that is cold, to be expoſed to the ſouth is beſt; if light and hot, then the eaſt is counted beſt; the northern aſpect in England is beſt for baking fruit; the eaſtern expoſure is ſubject to the north-eaſt wind, which withers the leaves and new ſhoots; beſides, eaſtern wall-fruit have little benefit of the rain, which generally comes from the weſt; and as the eaſtern expoſure is ſubject to north-eaſt winds, ſo the weſtern ſuffers by north-weſt winds in ſpring; and the fruit in autumn is often blown by them; and as all expoſures have their advantages and diſadvantages, it requires ſome conſiderable prudence and ſkill to prevent the latter.

As to the weather; in ſcorching hot weather, (ſays Pliny) to burn cray fiſh, i. e. water crabs, in ſeveral parts of your garden, under your vines, is a good remedy.

To preſerve young Trees, from being peeled by Hares, Rabits, or other Animals.

Take tar, which mix with any kind of greaſe, and boil

boil it over the fire, ſo as both may incorporate, then with a bruſh daub over the ſtem of the tree as high as they can reach; do this in November, and it will ſecure the trees for the whole year, it being the winter time only when they feed on the bark.

For Froſts in a Garden.

Smoke Ox or Goats dung ſort with in your garden, or chaff.

CHAP. III.

OBSERVATIONS in HUSBANDRY.

The experienced Huſbandman; ſhewing how to manure, plow, weed, &c.

HAVING already treated of gardening, and directed the gardener how to order matters for every month in the year, I now come in the next place to direct the huſbandman in the management of thoſe affairs that are properly under his cognizance.

The firſt point of huſbandry is, to prepare the ground; the ſecond to plough it well; the third to dung it well. The ways of doing this are divers, according to the nature of every ſoil and country. Only take notice, that all great fields are tilled with the plough and ſhear, but the leſſer with the ſpade.

The ſeaſon of the year, and the weather alſo is to be obſerved in the ploughing of the ground; you muſt not plough in wet ground; nor yet after very little rain; that is, if after a great draught, a little rain falls which has not gone deep, but only wet the upper part: for the ground ought to be thoroughly mellowed, but not too wet, for if it be too wet, you can expect but little benefit that year: you muſt therefore obſerve that the ſeaſon be neither too dry nor too wet; for much dryneſs will hinder it from working well; becauſe either the hardneſs of the earth will reſiſt the plough, or if it ſhould enter, yet it will never break the clods ſmall enough, which will be hurtful to the next ploughing. But if your firſt ploughing has been in a dry ſeaſon, it will be neceſſary to have ſome moiſture in your ſecond ſtirring, which will alſo

alſo make your labour the more eaſy. When the ground is rich and wet withal, it is to be ſtirred when the weeds are full grown, and have their ſeeds in the top, which being ploughed ſo thick, that you can ſee where the coulter hath gone, utterly kills and deſtroys them; beſides, through many ſtirrings your fallow is brought to ſo fine a mould, that it will need very little harrowing when you ſow it. And ſeeing ſo much depends upon the well ploughing of the ground, the huſbandman muſt try whether his ground be well ploughed or not; for otherwiſe the balks being covered with mould, he may eaſily be deceived; to be certain therefore let him thruſt down a rod into the furrow, and if it pierce alike in every place, 'tis a ſign the ground is well ploughed, but if it be ſhallow in one place, and deep in another, the ploughing is faulty. If you are to plough upon a hill, you muſt not plough up and down but over-thwart, for ſo the inconvenient ſteepneſs is to be avoided, and the labour of men and cattle made more eaſy. But then you muſt be careful not to plough always one way, but ſome times higher and ſometimes lower, working a ſlope as you ſee needful.

As to the ſeaſon of ploughing, it muſt be chiefly in the ſpring, the ground being in the ſummer too hard, and in the winter too dirty: but in the ſpring, the ground being mellowed is the moſt eaſy to be wrought upon: and the weeds are then turned in, and being plucked up by the roots before they are ſeeded, will not ſpring again but help to enrich the ground. And therefore the middle of March is uſually the beſt time to begin ploughing. —But yet if the ground be light and ſandy, it may be ploughed in the winter, if the weather will permit. A ſlender and level ground, ſubject to water, ſhould be firſt ploughed in the end of Auguſt, and ſtirred up again in September, and prepared for ſowing about the middle of March. The light hilly ground is broke up about the middle of September, for if it be broken up before, it may be burnt up by the ſun, and have no goodneſs remaining in it, being barren and without juice. But this ſhall ſuffice to be ſpoken of breaking up the ground.

Now if your ground be barren and cold, producing ſtore of weeds or ruſhes, to bring to a moderate heat, and ſo make it fruitful, let it be manured with lime. And when you have ſanded your ground and backed it, make your lime ſmall, and on every acre beſtow thirty or forty buſhels of lime, ſpreading it, and mixing it with earth and ſand very well; and the ſtronger and ſharper the lime is, the better the earth will be, and you will find your improvement anſwer your labour. And here note, it is no matter what colour your limeſtones are, whether white or grey, ſo that they be but ſharp and ſtrong in quality, to give a good tincture to the earth, it being the ſtrength and goodneſs of the lime, and not its beauty that produces the profit. It is a great helper to a cold, clavey, wet ground. Such grounds are alſo very much helped by laying dung, or any ſoil that is fattening, either of cattle, or ſuch as is caſt out of pond-lakes, or muddy ditches, for barren and hot earth can never be overlaid with good manure, or compoſt, for that warms the earth, and it is the want of warmth makes it unfruitful.

As for the hacking and ſanding before mentioned, the firſt is, after the ground has been turned up with the plough, to go over it with a long hoe, or hack, and cut in pieces the graſs which you ſee turned up with the ridges or furrows, or any uneven lumps, that it may be dragged away, burnt, or carried together with the weeds, not to grow up again to encumber the corn. And ſanding it, to bring loads of ſand, and lay them in convenient places, ſpreading them lightly, or thick, as you ſee occaſion over the ground, that the lime mixing with it, may the better imbody with the mould, and ſoak in with the rain, to the heartening the ground, and producing a good crop.

But beſides what I have already mentioned, there are ſeveral other ways of manuring land; I will mention ſome of them for the huſbandman's better information. But here it will not be amiſs to take notice, that what will do well for one ſort of land, will not do at all for another; and therefore in manuring of land, regard muſt be had to the nature of it; as for example, for a barren clayed ground,

ground, lime and ſand is excellent to manure it with, for a barren ſandy ground, good marle is much more proper. If it be aſked what this marle is, I anſwer it is a rich cliff caly, an enemy to all weeds that ſpring up themſelves, and gives a generative virtue to all ſeeds that are ſown in the ground, it is of a glewy ſubſtance, in quality cold and dry; and was earth before it was marle, and being turned into marle, it is nothing but a rich clay of diverſe colours, according to the ſtrength of the ſun, and climate where it is produced. This is ſo good a manure, that well laid on, it will enrich the barreneſt ground for ten years, and ſome for thirty. To find it take an auger whimble, made to hold many bits, one longer than another, till you have tried, by drawing the earth into one place, then proceed. The moſt proper places are in the loweſt part of high countries, near the brooks and lakes, and in the high parts of low countries, upon the knowls or little hills, and in the cleſts of ſteep banks, or branches in hills opening themſelves; in ſome places it lies deep, in others ſhallow, and commonly barren ſandy grounds are verged with it, lying very deep. Having found it, dig it up in great lumps, and lay in heaps a yard diſtance one from the other, and when it is dried ſpread all the heaps, many mix the marle with the ſand. But becauſe this is not ſo eaſy to come by, I will ſpeak of others more general, that will enrich any poor land, or clay for grain, with leſs trouble and coſt than before.

Woollen rags are very profitable for manuring and enriching of land, a packful and a half being ſufficient for dreſſing an acre of arable ground. The way of uſing them is to chop them very ſmall, and ſpread them an equal thickneſs over the land before the fallowing time, and then coming to fallow, let the plough take 'em carefully into the ground, and cover them.

Shavings, or waſte horns, or hoofs of beaſts, are very good to manure land withal; ſcatter the ſhavings in the ſame manner. Theſe will keep the ground good, in like quantity as the rags, and plough 'em in after eat for five years together, without any renewing. The hoofs of cattle,

tle are approved for this, and may be had of trotter and tripemen, &c. and muſt be uſed as the rags and ſhavings. Soap aſhes, when the lye has been drained from them is of excellent uſe in this caſe, and has beſides the property of killing weeds and inſects that breed in the ground and eat up the corn. The heir of beaſts enriches land, being ſtrewed and ploughed in, and there let lie to rot. Alſo malt duſt is much available to this purpoſe, allowing three quarters of it to an acre. And to enrich your dung on the lay ſtall, is to throw often beef-broth, and other waſte broths upon it, as alſo ſoap ſuds: and in ſo doing, one load will be worth three of the ſame kind that is not ſo uſed. But ſo much ſhall ſuffice as the manuring of ground.

In ſowing of your ſeed, let your grain be the beſt, and ſcatter it according to the art of good huſbandry, and let your ſprinkling be a medium, not too much, nor too little. But to make the ſeed proſper the better, ſteep it in thick ſlimy water that drains from dunghills, and if no ſuch be to be had near hand, ſteep cow dung, in water, and ſoak the ſeed in it: wheat will be well ſoaked in 18 hours; barley in 36; peaſe in 12; but rye and oats may be ſown dry, for that agrees beſt with them.

But when the ſeed is ſown, all is not done; you muſt take care to prevent the deſigns of thoſe that will make void all your labour, and defeat your hopes; or elſe, though you have ſown your corn, you ſhall never ſee it come up; rooks, crows, and daws, are great devourers of grain, who will be ſure to be about you, when you go to ſow; to keep theſe at a diſtance, ſhoot ſome of them and hang them upon poles in divers angles of your field ſtick their feathers along the ridges of the land; lay trains of gun-powder, and blow the powder up, or let it lie ſcattering in the moſt frequented places, and the ſcent of it will make them forſake the field; eſpecially now and then ſhooting a little. You may alſo take great numbers of them by placing ſtrong thick brown paper, twiſted taper wiſe, like thoſe on ſugar loaves, in holes of the earth, the broad top coming even with the ground; bird lime

the inſide, and ſcatter ſome grain in it, and then the fowl putting his head to take it out, the paper ſo limed, will ſtick cloſe, and riſe with him, when being blindfolded, in amaze he will fly up a great height, and will fall down again; ſo that if you be near at hand he may eaſily be taken. Alſo the ſcattering nox vomica, mingled with paſte, if taken by them, as it ſeldom miſſes, will make them ſo ſick that they will forſake the field. If you lime your corn, they will forſake it; and ſo they will if it be ſteeped in water wherein wormwood has been boiled, or infus'd; or elſe ſprinkling your corn with the dregs of bitter oil; and it will do the like, by making them caſt it up ſick, and ſo not deſirous of any more: and theſe with hanging bunches of feathers on lines or ſticks that the wind may dangle and twirl them about, may help to preſerve your corn when newly ſown; and this laſt alſo may be uſeful when it is ripe, But theſe directions relate only to fowl; who, notwithſtanding all you can do, will be ſure to come in for a ſhare with you.

But there are other deſtroyers of your corn, beſides birds; which you muſt likewiſe take care to deſtroy; amongſt which are the piſmires or ants, who will do a great deal of miſchief by biting off the chits or ſprouts, ſo that it will never grow, but rot in the ground: To prevent this, ſearch the corn fields well, eſpecially under the hedges, and the roots of hollow trees, or on the tops of hills caſt up; and if you find them there, put your limed water ſtrong and hot amongſt them, preſently after ſun-ſetting, and it will deſtroy them. For want of lime, make a lye of wood aſhes, and it will do the ſame, tho' not ſo effectually.

Another devourer of corn, are your dores, or great black beetles, which lie under the clods, and in ſprouting time do much miſchief; To deſtroy theſe, make great ſmoaks in your fields, in a ſtill night, or when there is a little breathing wind that may carry it over the ſurface of the ground, with wet rubbiſh, or mouldy peaſe-ſtraw, hay, or ſuch like, and it will kill them, or chaſe them out of the ground; for they are, of all other creatures,

tures, the greateſt enemies to ſmoke, and cannot leaſt endure it. But if your ground be limited, or that you ſow lime among your corn, you may trouble yourſelf with them no farther; for if they bite where the lime has touched, it kills them.

The next vermin to be deſtroyed are field rats and mice, and water rats alſo; for theſe deſtroy a great deal of grain; which to prevent and ruin them, find out their round holes when the field is bare, and put hemlock ſeed into them, which they will eat, and it will kill them; the ſprinkling of juice of hellebore in them, will alſo do the like. But that which I prefer above the reſt, is to beat common graſs very ſmall, mix it with a little copperas, vitriol, and coarſe honey, and make it up in pellets, and ſcatter it in their haunts, in the mouth of their holes, or other likely places, and the ſecret will draw them from all parts, and once eating it they will certainly die. This alſo may be uſed in granaries and barns, for other rats and mice, with good ſucceſs.

Slugs and ſnails, are another ſort of devourers, which do much miſchief to corn and peaſe juſt ſprouting up; to kill theſe, the beſt thing is ſoot or lime, ſprinkled thin, over the ground; for touching it they will die.

Graſs hoppers alſo do much injury, by feeding on the leaf and bloſſom of corn and pulſe, from the firſt to the laſt: theſe are not eaſily deſtroyed, the beſt way to be rid of 'em is by ſprinkling corn with water, wherein wormwood, rue, or centaury has been boiled, till the ſtrength of them are taken away by the water; and if they bite where the ſprinkling happens, they will die. The ſcent of any bitter thing being ſo offenſive to them, that they are never found where any ſuch things grow.

Moles are another vermin to be deſtroyed, for they are in a double regard deſtructive to corn: that is, in eating the roots, and rooting it up: Not making diſtinction of any ſort, but taking all alike. There are divers ways of taking them, but not ſo eaſily when the corn is well grown, for then they do the greateſt miſchief, when their tracts, or caſting up of their hills cannot be diſcovered ſo

eaſily; however you muſt do as well as you can; and when you ſee them caſting, or moving in their tracts, ſtrike them with an iron of many ſpears; or dig pits in their tracts, and ſet earthen glazed pots, which they will blindly fall into, and cannot ſcramble out; or fill an earthen jug with pitch, roſin and brimſtone, with ſome looſe tow, or rags, and firing it, clap the neck to the mouth of the hole, and the air in the earth drawing in the ſcent to a great diſtance, will ſtifle them; or mix juice of hellebore with rye meal, ſcatter little bits in the furrows, and finding it in their way, they will greedily eat it, and die.

Having ſhewed you how to deſtroy ſuch vermin as are devourers of corn, it will now be neceſſary to ſay ſomething about weeding your corn when it is ſprung up; for weeds are very offenſive and deſtructive to corn, hindering its growth and choaking it up.

When the corn is ſprung up about a foot above the ground, thoſe ſorts of ſoil that are apt to produce weeds, will require your looking after, to root them out: if they be thiſtles, or ſuch as are great and offenſive, they muſt be taken away with hooks and nippers, cutting them off cloſe by the roots, or rather pulling them up by the roots, if you can do it without breaking the ground, ſo as not to bring corn along with them. The nipper may be made with two long pieces of wood rivetted, to be opened like a pair of pincers, with ſaw teeth, cloſing into one another, that they may take the ſurer and firmer hold without ſlipping. And theſe weeds may be much hindered in their growth, by ſowing of two buſhels of bay ſalt in an acre of land, as you do your wheat, after the grain is ſowed: For tho' it is a friend to corn, in making it proſper and increaſe, yet it is an enemy to the weeds, and hinders their growth.

How to turn barren Land into good Paſture and Meadow.

Hitherto I have been ſpeaking of the ordering of corn, I come now to ſpeak of enriching the earth for meadow and paſturage, and this is done two ways, viz. By watering and manuring it. And for this uſe, the lower the ground

ground lies, ſo it be not ſubject to overflowings or too much wet, the better it is, and the ſooner made good. Conſider in the next place, what kind of graſs it naturally produces, whether clear and entire, or mixed with that of worſer growth, the firſt is beſt; but if it be of a worſer ſort intermixed with thiſtles, broom, and offenſive weeds, then grub and pluck'em by the roots, clearing the ground, of 'em as well as you can: then dry them, mix them with ſtraw, and burn them upon the ſwarth of the ground, and ſpread the aſhes upon it; then fold your ſheep upon the ground for ſeveral nights, that their dung may increaſe its ſtrength, and their feet trample up the graſs: Then ſcatter it well over with hay-ſeeds, and go over them with a roller, or beat them with a flat ſhovel, that they may be the better preſſed into the ground, to take root; then over theſe ſcatter hay, or the rooting of hay under ſtacks, or the ſweepings of the barns, or moiſt bottoms of any hay that has been good, and moiſt, and is of no other uſe; then ſpread on your manure, as horſe dung, man's ordure, or the dung of any beaſt; which being thinned, and the clots well broken, let it lie till the new graſs ſprings through it; but do not graze it the firſt year, leſt the cattle tread it up, not having taken very good root; but mow it, that it may have time to come to perfection: And tho' the firſt year it may prove ſhort and coarſe, yet the ſecond it will be fine and very long, and in great plenty. And dreſſing it thus but once in twenty years, will continue it good for meadow or paſture; eſpecially if in dry ſeaſons you have water to relieve it, which may be done by bringing ſprings through it, or gathering the violent fallings of rain into a ditch on the other ſide of it, or by any other conveniency, according to the ſituation of the ground, on the aſcending part, to overflow it ſo long, that it ſoak deeper than the roots of the graſs, to continue its moiſture for the nouriſhment of it for a conſiderable time. And note here, that the beſt ſeaſon for the watering of meadows, is from the beginning of November to the end of April; and the muddier or more troubled the water is, the better, for then it brings a ſoil upon the ground; and this generally happens after

haſty

haſty ſhowers and great fluxes of rain. And if you have many fields lying together, eſpecially in a deſcent, you may make a conveniency in the uppermoſt, to pen up the water till it is very well ſoaked; and then by a ſluice or breaking down of a dam, let it into the next; and ſo by a ſmall addition of water, tranſmit to many.

CHAP. IV.

A valuable Collection of RECEIPTS, &c. for the Cure of many Diſorders incident to HORSES and BEASTS.

By JOHN CUNDALL, late of Brandſby.

For the Crook in Cows.

THE Crook in Cows begins in different places, and are handled in many forms; ſome are ſeized in the neck and head, which draws their heads on one ſide; they look wild with their eyes, ſhoots their tongue, and ſlavers very much, and will thruſt their heads into a corner, ſtanding there ſometime, till they are ſeized with agonies, as is often the caſe. Others are ſeized in their limbs eſpecially in the hind parts, and lie lame for a conſiderable time.

The Cure. Firſt bleed well in both ſides of the neck, and continue it the day following. Then give the beaſt one quart of the beſt brandy, two ounces of black pepper two ounces of flour of ſulphur, two ounces of flour of muſtard, one ounce of diapenty, one ounce of turmeric, ſix penny worth of ſaffron, and about a quarter of a pound of bordox root ſhred ſmall, and mix them all together.

For the Fellon or Hide Bound.

This diſorder is ſo well known, that it needs no deſcription, any further than ſetting down a fellon drink for it.

Take anniſeeds, beaſt ſpice, diapenty, carraway ſeeds, galangal in powder, of each one ounce, flour of ſulphur two ounces, grains of paradiſe half an ounce, mithridate

date an ounce and a half, one quart of warm ale, with half a pound of treacle. To be given faſting, and faſt two hours after.

For the Foul in Beaſt's Feet.

Rub them well, then take oil of vitriol, and anoint the place well with a feather. In two or three days after uſe the ſame means, and it is a certain remedy.

For the ſtinking or running Foul.

Take half an ounce of ſublimate, and one ounce of ſoft ſoap, powder the ſublimate ſmall, and mix it with the ſoap; then apply it to the place affected, and bind it down with a pledget of tow, and a linen clout: Let it ſtay on till it eat the place out, and then mix one ounce of common turpentine, with a little tar; lay it on the part affected, and it will do well.

For the Gravel in the Foot.

Take a blackſmith's draw-knife, and draw it well out; then pour into the place oil of vitriol half an ounce, mixed with one ounce of linſeed oil, till it has loſt its fire.

For cleanſing a Cow after Calving.

Take a handful of traveller's joy, or Robert Hood's feather. It grows amongſt ling, and runs ſpringing at the bottom of the ground. Boil it in two quarts of water till one ſtrain off, and add two ounces of ſpermaceti, and half an ounce of gum myrrh, and give it to the beaſt. Be ſure to powder the gum myrrh well, and it will be a certain remedy.—If travellers joy cannot be had, take a handful of agrimony, which will anſwer the ſame end. It commonly grows on highway ſides, and has a ſtrong ſtalk, rough leaf, and a ſmall yellow flower; the ſtalk ſet with flowers for a foot long to the top. Boil it in the ſame manner as the former.

For a Milk Fever.

The milk fever makes a cow full of pain, and ſweats very much; it commonly happens to cows full in fleſh, two or three days after calving, and is a diſorder ſo well known, that it needs no further notice.

Firſt bleed well two or three times a day, and give her white pepper in powder two ounce, mithridate four

ounce

ounce, lenitive electuary two ounce, to be given in a quart of gin; Holland's gin will be much better than the common ſort, as it is a good opener to the urine veſſel, being made of juniper berries. Endeavour to draw her udder ſeven or eight times a day, to get her milk out of the blood veſſels.

For the Cripple Fellon in Cows and Calves.

The Cripple Fellon lies in the joints and chiefly in the joints of the hind legs, about the little claws, and ſtrikes them very lame; it will ſhift to the far knees ſometimes, but very ſeldom; at others it flies in the loins and frequently in the fore ſhoulders, that is, the ſhoulder points, but the diſorder is all the ſame.

The Cure. If they be in low ſoft land, ſhift them to ſome high dry land, and put two taps in them on the lower part of the belly, near the milk vein, and in three days after, give them two ounce of oil of turpentine, one ounce of ſpirits of ſal ammoniac, mixed with a quart of black beer; repeat it in nine days after. For the calves the ſame, but a ſmaller quantity.

For Sedging or Fellon in the Udder.

The Fellon in the Udder often happens to fat cattle, begins about midſummer, and not often before: it makes the udder part to ſwell and inflame with heat, and flies from the udder into the limbs, and ſometimes lames them in the limbs before it flies to the udder. It often makes them very ſore in their loins and udder, and much pain to them to walk, and are given much to lying down.

The Cure. Take four ounce of oil of turpentine, two ounce of ſpirits of ſal ammoniac, mix them together, and rub one half on the milk veins on the fore-ſide of the udder, and the other half mix with two ounces of dyer's madder, two ounces of white argil, two ounces of ſalt petre, and one ounce of antimony crude, to be mixed with warm water, and be ſure to bleed well.

For the throwing up of Meat undigeſted.

Beaſts that throw up their Meat after chewing, is chiefly for want of their cud; it makes them very ſick, looſe in their flank, hang down their heads, and ſlaver much, and often very weak in their limbs.

The Cure. Take out the tongue with your hand, and prick it well with a fork on the under ſide, and rub the mouth well with ſalt and vinegar or vergus; then give them eight ounces of cream of tartar, two ounces of glauber's ſalts, two ounces of caſtile ſoap, and two ounces of flour of ſulphur, to be given in warm water; and warm water two or three days after.

For a Beaſt that has got a Heaſe or a Cold.

A Beaſt that has got a heaſe looks faint with her eyes, and her eyes water much, loſes her belly, and when ſtirred ſhuts her tongue, and heaſes and pants much.

The Cure. Take a pint of tar, put it into a pitcher; then boil a quart of water, and pour on it, ſtir the water and tar together, and let it ſtand a day or two; then ſtrain it off, take half of the tar water, and mix it with two ounces of marſhmallows, and two ounces of caſtile ſoap one ounce of laudanum balſam, give altogether, and repeat the ſame in twenty five hours after, and warm water in the time of taking the medicine.

For the Longtoft Panters.

This diſorder in cattle is not well known among many people, but it is one that often happens; they look to be very ſick, and weak in their limbs, likely to drop down, thruſt out their heads, and ſhut their tongues; they are very ſhort of breath, can eat nothing and likely to die every hour.

The Cure. Take a pound of oak bark, ſhave the outſide off it, then put it into a pot or pan; boil it in water, for an hour, then ſtrain the liquor from it, and apply two ounces of ſalt-petre, two ounces of ſalts of worm-wood or one ounce of ſalt of tartar, two ounces of filings of iron, and one ounce of liver of antimony, to be powdered and mixed, and given at four different times, at ſix hours diſtance.

For the Blind Water, or Red Water.

This diſorder is ſo well known, that it needs no deſcription.

The Cure. Take a quart of black beer, ſix ounces of laudanum balſam, two ounces of ſpermaceti, two ounces

of Iriſh ſlate, and one ounce of dragon's blood, powder the ſubſtances well, and mix one half with the half of black beer, and give the other half in ſix hours after.

Or this. Take a handful of St. John's wort, boil it in a quart of water, and ſtrain it off; then apply two ounces of ſalt petre, and one ounce of balſam copivi, and to be repeated ſix hours at a diſtance.

For the Maw Borne, or Lake Borne,

It is ſo well known, that I need not mention how they are ſeized: for it is pretty ſafe to follow the red water, if it continue long on them.

The Cure. Take ſix ounces of cream of tartar, five ounces of glauber's ſalts, four ounces of flour of ſulphur to be given in warm water, or whey. Clyſters are very proper, if they be bound in their belly, or likely to be; for a Clyſter, take a handful of pallaterry on the wall, and a handful of brook lime, boil them in two quarts of water; to be ſtrained off, and thrown up every eight hours.

For Shut, or Flux in Calves.

This diſorder often comes by the cow's milk, the cow being in a fever, or what ſome calls felon; if a cow be out of health, it is always called fellon among the common country people, through their ignorance; ſometimes the calves catch cold, and at others lick dirt, which brings on that diſorder. The beſt medicine is to change the cow's milk, and give them about a quarter of an ounce of Turkey rheubarb, and a little warm ale and pepper, but not much, mixed together, as nouriſhment for them is the moſt proper.

For a Bull that has got clapt or ſtrained.

A Bull that has got clapt begins to ſwell in his pizzle and ſheath very much; if it be not prevented, it grows ſtiff in his loins, is lazy and ſluggiſh to ſtir.

The Cure. Firſt throw him, and draw his pizzle out of his ſheath; waſh it well with ſtamped houſe leek, and blue milk, and give him four ounces of cream of tartar, half an ounce of powder of jalap, two drams of camomile prepared, mix the medicines together, and give them in warm water; and warm water for two or three days after.

If

If the beaſt be ſick with the medicine, give him a pint of ſweet oil, to correct it; and if he does not mend, it muſt be repeated.

For a Gut foundered, or Shut in Cows.

A gut foundered beaſt may be mended, but it is impoſſible for the power of medicine to ſtop a rotten cow, as it is commonly called. There are many falſe pretenders to cure a rotten cow, but they find themſelves miſtaken in the end, therefore ſhall not mention any thing for it.

The Cure for a gut foundered Cow. Take two quarts of ſea water, if it can be had, if not, take a pound of common ſalt, and pour a quart of boiling water on it: when it is diſſolved give the beaſt it, and a ſufficient quantity of warm water to work it off. In three days after give the fellon drink, as before deſcribed.

For the Gargil in Cattle.

The gargil often begins in the limbs, ſometimes by ſwelling, and at others by pains in their joints; ſometimes by cold, they often tremble very much, draws up their belly, and ſtand with their feet together, their eyes waters much, and are very red in the inſide.

The Cure. Take four ounces of Venice treacle, two ounces of grains of paradiſe, one ounce of turmeric, two ounces of round bearth wort in powder, and ſix-penny worth of ſaffron, to be given in a quart of warm ale, with half a pound of treacle. If they ſwell much you muſt ſetter or tap them. Warmneſs is very proper for them.

For Poiſon, or Swelling in the Bowels.

Beaſts that have got poiſon, ſwell very much in the body, till wind fills them up ſo full, that it is impoſſible for them to live any time, without help.

Firſt bleed them well on both ſides of the neck, and give them a quart of ſweet oil, if it can be got at hand; but if the ſwelling continue, you muſt ſtab them with a pen-knife between the flank and huck bone, on the ſide that the maw is on, and put in a pipe of any kind, ſuch as a quill barrel, a bellows pipe, or the like. When the wind is got out, lay on a plaiſter made of black pitch. or

roſin, or any thing that will ſtick faſt, to keep out the cold.

For the Stirdy in Cows and Calves.

Stirdy is a bladder that lies betwixt the ſkull and the brain, full of water and little ſeeds; ſometimes there are two bladders joined to each other; they make beaſts ſtare with their heads up in the air, and ſtumble much with their feet, can hit no road, very ſubject to turn round much in one ſpot; when the bladder is fit to come out, you will find a ſoft piece in their ſkull. Take up the ſkin with a ſharp knife, and then open the ſkull with a chiſel, or any other inſtrument. Stop the wind in the noſtrils, and the bladder will come out. Then apply a plaiſter on the ſkull to keep out cold.

For a Dropſy, or Water Tympany.

This diſorder comes by a ſtoppage in the urine veſſels, from a ſtoppage in the goal pipes, that leads from the goal to the bladder, and goes into the bladder by little ſmall pipes that joins the bladder neck, and goes betwixt the ſkin to the bottom before it enters the ſides of the bladder, when the pipes are ſtopped by a glue matter, the water cannot come into the bladder, it flies out into the lower belly, and fills it full of water in the low ſide of their bowels, which diſorders them very much, and keeps growing fuller through time, till, in the end, they cannot get without help; then it is time for a cure, which is as follows:

Take a ſhop-knife, and cut a little hole about a hand's breadth from their udder to the breaſt ward, and the water will pour out very much. When all the water is diſperſed, you muſt ſew the hole up, and then apply a plaiſter on it that will ſtick faſt. Take burgundy pitch two ounces, common turpentine one ounce, and gum arabic one ounce, melt them together, and ſpread them on leather warm, and lay it on the place, and then bathe it with cold water in order to cool it: you muſt mind to have the cow laid on her back. It muſt be repeated if ſhe fills again.

For the Scurvy, or Scab in Cows.

This diſorder is a very bad one among many cattle

be it known that it is infectious; it breaks out much the ſame as the ſcab in horſes, or in any other thing, but more harſh, that is, bigger places, and takes more effect on them. It is a diſorder that is very little known in Yorkſhire, and in ſome places there are many people that know not how to get a remedy for it I have had many under my care, and at firſt was ſore maſtered to find out a cure for it; but I believe that I have got as good a medicine for it, or better, than any that have been found out, which is as follows:

Bleed well two or three times, then take trooper's ointment ſix ounces, Flanders oil of bays eight ounces, frankinſence four ounces, ſulphur of vivum eight ounces, and as much oil of turpentine as will make it into an ointment. When the ointment is made, you muſt rub it all on two beaſts; if you have but one, half the quantity will do, and if you have more, add ſo much more in proportion. Be ſure to rub them in a warm ſun, or make a ſtrong fire to melt in; and after that if it appear again, you muſt make a little more of the ſame to ſtop it, or elſe it will never be cured.

For the Quinſey in Cows.

The quinſey is a hard ſwelling that penetrates their tongue roots, and makes them uneaſy to ſtir their jaws; they cannot eat without much pain, and by continuance of time leave off their meat entirely; then it is time to ſeek a remedy, which is this:

If the ſwelling be large and hard, take an iron about the ſubſtance of a nail ſtring, run the iron into the loweſt part of the ſwelling, about half way through, and then put in a tent made of turpentine, common bees wax, honey, and hog's lard, about one ounce of each; put it in with a pledget of tow, and rub the ſwelling with oil of ſwallows, and ſpirits of wine, of each two ounces, every day, till the ſwelling diſappear. Fomentations are very proper, if the ſubſtance be highly inflamed with heat. To make a fomentation take a handful of brook lime, arſmart, palatery on the wall, bortery leaves, boiled among chamberley, to be applied as faſt as poſſible.

Take

For Annberries.

To take annberries off, I ſhall make ſome mention of it, but to treat how they are handled it needs no deſcription, for any perſon knows them.

Take a hot iron pretty ſharp, and burn the largeſt off, if you cannot pull them out by the roots; but if you can pull them all out, it will be much better; where they bleed, ſear them with a hot iron, and apply oil of vitriol to keep them from growing again.

A Caſ in the Eyes of Bulls, Cows or Oxen.

Take a linen cloth, and open the eye lid with your finger, or ſew it up to their ear with a needle and thread; then apply the linen rag to try if you can catch it, and if you cannot get it, you muſt powder a little window glaſs as fine as you can, and mix it with ſugar of lead, or white vitriol, and blow it into the eye with a quill barrel; if the eye be inflamed, bathe it with blue milk, or ſtamped houſe leek, or ſuch coolers.

For a Fever in a Cow.

A fever often happens by cold, as is the caſe with many other diſorders; they are high coloured in their eyes, ſlow to their meat, hollow in their eyes, and water much, often in a cold ſweat, and ſometimes a little ſick.

Firſt bleed them, and get two ounces of coriander ſeed, one ounce of long pepper, two ounces of muſtard powder, two ounces of turmeric, one ounce of dyer's cordial; to be given in warm water and treacle. To be continued if no better. There are many other diſorders which I ſhall not mention, for there are no cure for them, ſuch as quarter ſellon, fiſtulas, bloody flux, and many others.

CHAP. V.

The HORSE FARRIER.

THERE are many Horſe Farrier Books which mentions all diſorders, ſo that I need not trouble myſelf to ſet down how they are handled in every reſpect; bnt I ſhall lay ſome down ſomething plainer than I ever ſaw

ſaw any yet. I haved tried many authors and many receipts in order to find out the real ones, which, by practice and induſtry, I have found out. And out of ſeveral authors, and many different operations, I ſhall take many receipts, and ſet down what they are for; and ſometimes two or three for one diſorder, that they may make uſe of which is the neareſt to come at. I ſhall only take notice of them that I have tried by experiments. Mr. Bracken has laid down many receipts in his book, that a horſe about thirty ſhillings value would not be worth the ſum of his receipts: now I think that it would be a folly to mention ſuch receipts for common uſe, when things of a lower value will anſwer even as well: but moſt gentlemen would not think the doctor worth any thing, if his druggs were not valued at a high price. I am apt to believe that there are many herbs for diſorders, as druggs, and are of as much value: for druggs, at this time, are like many other things, that is, worſe than they uſed to be, and coſts more money. The druggiſts have got ſuch a form of adulterating them, and reducing them down, that one may give the double quantity, and they will have very little effect; as ſuch, ſhould recommend to all buyers, to be as careful as poſſible to obſerve them themſelves; they muſt not truſt to the druggiſts, for they are ſure to deceive them: but I would adviſe all my friends to get their druggs as much in ſeeds and roots as they can, and pound them themſelves. I ſhall ſet down all the beſt receipts that I can, and what they are proper for.

The Lamperts in a horſe's mouth are known by every perſon; they are flaps that many do not underſtand, they are pieces of looſe ſkin that grow in the wicks of their mouths, adjoining the axel teeth, and when they are eating hay or corn, it is apt to get betwixt them, which makes their mouth ſore, and they are afraid of eating.—The remedy is as follows:

Take a ſharp pen-knife, and cut them out, and they will ſoon be well, provided the wound be always kept clean.

There is what is called woolf teeth, which is a great detriment

detriment to a horſe; they grow on their axel teeth on the fore ſide, very viſible to be ſeen.

Take a blunt joiners chiſel, and ſet againſt it, and ſtrike it out, which is very eaſy to do. Wooif teeth is not the only infirmity to eating, but to their eyes; they make many a horſe go blind. I have known a horſe blind for the ſpace of ſix months, and when they brought him down to me, I took out the wooif teeth ſo called, and did nothing elſe at him. and he got his ſight again in five days after. I would adviſe all people that have a horſe bad in ſight, to examine their wooif teeth. There are many diſorders belonging to their eyes, ſuch as moon blind, hoes, fevers, colds, bats. and laſhes; but when a ſcum grows over the eye, take a little ſugar of led, and the ſame quantity of white vitriol, powder them ſmall, and blow it two or three times into his eyes through a quill barrel.

Poll Evil that lies behind a horſe's ear, is ſo well known that it needs no deſcription, but ſetting down a medicine for it, which is one of the beſt that have been tried for many years, for ſtopping them before they break out.

Take oil of origany one ounce, ſpirits of ſweet nitre one ounce, oil of turpentine two ounces, and ſpirits of ſal ammoniac one ounce, mix them all together, and to be rubbed on the ſwelling twice, four days at a diſtance; and two days after get two ounce of Flander's oil of bays, half an ounce of gum euphorbium, one ounce of Spaniſh flies, two drams of ſublimate, to be powdered well together, and then mixed with Flander's oil of bays, wrought well together with a knife, or the like. This is an excellent bliſter. You muſt lay the one half on, and the other half ſeven or eight days after. I am certain that it is as good a remedy to ſtop the poll evil, as any in the kingdom. If the diſorder breaks out, you muſt cut it down with a pen knife, along ſide of the fix-ſax of the neck, near the mane; you muſt cut it ſo deep till you can put your finger under the fix-ſax; be ſure not to cut acroſs the fix-ſax, if you do, you will let the horſe's head

down

down, and make him unfit for uſe. Where you find a pipe that throws out matter, you muſt put a little ſublimate into the place, and ſtop it well in with a quill, or ſcure, or the like, and let it ſtay in for five or ſix days, in that time it will eat the place out, and if any more pipes appear, you muſt follow the ſame practice. Fiſtulas that riſes betwixt their ſhoulder blades is of the very ſame nature and ſubſtance in all things, but worſe for cure, being ſo near the ſhoulder blades; for every time that a horſe moves, the fiſtula works, and throws out matter to ſuch a degree, that it is hard to keep any ſtuff in the pipes to work them out, I think it is beſt to put in ſome lunr cauſtic, it will ſlay as well in the pipes as any thing I know of, and do the execution as well, and in the leaſt time.

For a Salve to put in Fiſtulas and Poll Evil.

Take common turpentine four ounces, honey and bees wax of each four ounces, hog's lard ſix ounces, Ægyptiacum four ounces, ſpirits of wine four ounces, verdegreaſe in fine powder two ounces Melt theſe ingredients all together, and ſtir the verdigreaſe in when it is almoſt cold, or it will run in lumps to the bottom. Put a little into an earthen pot, or an iron ladle, and pour it in hot; but before you pour it in, you muſt walh it well out with the following water, and be ſure to keep the wounds clean with tow, and linen cloth, rather than woollen.

A Wound Water for Fiſtulas and Poll Evils.

Take vinegar one pound, roach allum four ounces, binwood that grows on hedges, or what is called hopwood one handful, white vitriol four ounces; powder the allum and white vitriol well, and boil them all together; and when cold put in a bottle for uſe.

For Nips or Cruſhes with a Saddle.

Take rectified ſpirits of wine two ounces, camphyr in powder half an ounce, ſpirits of ſal ammoniac half an ounce mix theſe well together; and apply it to the ſwelling two or three times, and it will take it down if there be no matter in it; and if there be you muſt cut it on the low ſide with a ſharp penknife; when the matter is got out, you muſt keep it open with a tent of com-

mon turpentine, and a little hog's lard; lay a plaiſter on with a little black baſilicum ſpread on leather, and burgundy pitch round the outſide of the plaiſter, to keep it faſt. You muſt put it on with a hot iron, and melt it well to make it ſtick faſt.

There are lumps on horſes backs that have been occaſioned by ſaddles, that is of an old ſtanding, which have a bladder in them. You muſt cut the ſkin, and take it well out to the bottom, and then put in a little blue ſtone vitriol, or red preſipiate. When it is eaten out you muſt heal it up with black or yellow baſilicum, and a little water made of ſpirits of wine, camphyr, and roach allum. This receipt was once reckoned the beſt in the kingdom for healing green wounds. It was then called Doctor Water made by a Clergyman, and was much eſteemed throughout the country. The receipt was this; Take rectified ſpirits of wine one quart, roach allum four ounces, and camphyr ſix ounces, the allum and camphyr to be powdered, and put into a bottle, and ſtopped up cloſe. To be ſhaked up twice a week for a month before it is fit for uſe.

As to nicking of horſes tails, the moſt people knows, or at leaſt pretends to know, therefore ſhall ſay nothing about it, only ſetting down what is proper to lay on them.

Take a tow, and draw it out ſo long, that it will reach round the horſe's tail, as many pieces as there are nicks, and ſpread on them black baſilicum, and tie them on the top ſide of the tail; but be ſure waſh the nicks with ſpirits of wine and camphyr; or inſtead of that a little brandy. Take a roller that will reach ſix or ſeven times round the tail, and do not lap too tight, if you do, perhaps you will make it canker or ſwell. The day after you cut the tail, cut the tow and roller half way through, and the day after cut it all and let it drop off. When the nicks heal and ſcab, open them with your finger, and a little hog's lard.

Twitter Bones are ſo well known, that I need not make any mention of them, any further than giving a receipt, which is as follows:

Take

Take an iron about the ſubſtance of a quill or rather thicker, find the hole with a piece of ſmall lead, and then burn in the iron as far as the lead goes. Then put in as much ſuplimate as will fill the hole, and let it ſtay in till it eat the piece out; then heal it up with the ſalve for fiſtulas, and uſe oil of origany, and oil of turpentine, to waſh it with, in order to ſtop it from coming again: If it appear again, you muſt treat it in the ſame form, and it is ſafe to work a cure.

Ring Bones are a bad infirmity to a horſe, and eſpecially on the fore feet; it is not one in ten that gets found when they do put out: The beſt thing is to fire them as ſoon as you ſee them coming. Take an iron, ſuch as gelder's uſe, and burn through the ſkin in five or ſix places and you will ſee a white greſſel, and fire into it, if you fire through it, you muſt go no deeper, if you do, you will damage him much. Lay on a charge made of oxycroceum, ſparrantes, and burgundy pitch, and bole, and common turpentine of each one ounce, mix all the indigents together, and lay it on hot with a knife; clip ſome wool ſhort, and lay it on after; then bathe it with cold water, and clip off the rags of the wool.

For a Strain in the Coffin Joint.

A ſtrain in the coffin joint is a thing of bad conſequence, it cannot be mended without a deal of time. Sweating and bliſtering is the beſt for it. I have known ſome people draw the ſole for it, but it is mere nonſenſe, they damage the foot inſtead of remeding it. There are more things made worſe by farriers, than there is good done by them; there are ſo many falſe pretenders that do not underſtand any thing about it; but tell their employers, that they can cure any thing, and at the ſame time can do nothing. It is impoſſible for a man to be a farrier except he knows chymiſtry, and the preparation of druggs, but that they leave out of their mind. They can get part meat, and part drink, chatter with their tongues, and tell what great cures they have done, and perhaps never did one in their lives. If a medicine be given to a beaſt or a horſe by a farrier, and the beaſt begin to mend, it was al-

ways the laſt medicine that cured it. If a man have a cow in the red water, he gives her his medicine, and the next neighbour comes and ſays, I have had many in this diſorder, and if you will give her that, it is moſt ſure to mend her. They give her it, this gets up to the high end of the town, that ſuch a man has a cow in the red water; then goes down an old man that hath been notified for many years, on two ſticks, to ſee this cow; he preſcribes a medicine for it, and if ſhe happen to mend, it was the laſt medicine that cured her; but if ſhe die, there was nothing that could mend her. In my opinion, it is a greater chance to kill them, than mend them; for they do not know the length of a beaſt's bowels, nor how long the medicine will be coming through it. It is thirty ſix yards and a half betwixt the ſtomach and the fundament; that the medicine will be twenty four hours in digeſting, and more; it will be near that time before the phyſic comes through, and ſurely it muſt be the quickeſt of going through. To return, drawing ſalves is not proper for any thing, excepting gravel, or a hoof bound horſe. A hoof bound horſe ſhould have his foot ſcrewed out by a ſhoe made with a joint in the toe, and a ſcrue through the out heel, and ſcrew into a hollow place in the heel: then the ſole muſt be drawn before it be ſet on, and if that operation be done, the foot muſt be greaſed and ſtopped well every day. Cow dung is as proper to ſtop a foot with as any thing I know off, if it be often applied.

There are many infirmities attending lameneſs in horſes, and eſpecially in the fore parts, but I would always adviſe farriers, and every other perſon, to take their horſes to a ſmith's ſhop, and duly examine their feet well, and if they do not find it, be careful to examine it upward, and mind not to leave it below, becauſe it is always ſaid by farriers, that he is lame in his ſhoulder, and no where elſe; you may plainly ſee by ſetting his foot down, and at that ſame time he may be lame in the other foot that is not thought on, on the other ſide.

For a Clap or Strain in the Back Sinews.

Take Flanders oil of bays one ounce, French flies half

half an ounce, gum euphorbium a quarter of an ounce, ſpirits of wine one ounce, powder and mix them together, and rub about one half on the place with a knife up againſt the hair; take a little blood from the paſtern or ſpurn vein of the foot. When the bliſter comes off lay on a little mercurial ointment.

For a Bat on the Knee.

When a horſe gets a ſtroak on the knee, or any other misfortune of that kind, you muſt apply turnip poulices, if turnips can be had; and if not, apply wheat flour, blue milk, and hog's lard mixed; to be applied twice a day for ſome time. If the place run lee, or what is called joint water, you muſt get ſome tincture of ſtiptic, or balm drops, and butter of antimony, one ounce of the former, and a quarter of an ounce of the latter; to be thrown up into the pipes with a ſurrange, and apply the common green ointment, which I have mentioned for the poll evil.

For Shoulder Slips, or Wrenches.

A ſhoulder ſlip or wrench comes by hard uſage, or falſe ſteps. You muſt cut a hole for a tap in the briſket, on the lower part, and then with a quill blow it full of wind, which is very eaſy to do: Hold the ſkin cloſe about the quill, and when the wind fills the place, ſtroke it upwards with your hand, and it will ſoon go up to the ſhoulder, and then you muſt put in a tap in the hole where you firſt cut. Then take oil of origany one ounce, oil of turpentine two ounce, ſpirits of wine one ounce, mix theſe altogether and rub on three days at a diſtance. When the tap runs ſet a cramp ſhoe on the ſound foot, to make him go ſound on the lame one.

For Malinders and Salinders.

Take trooper's ointment one ounce, and oil of nerves one ounce, mix theſe together, and rub the place with them in the bend of the knee, or bend of the hock.

For Splint or Corb.

Take one ounce of oil of origany, and two ounces of ſpirits of ſal ammoniac, mix them together, and keep them in a bottle for uſe. They will take of three or four of any of that kind.

Or this. Take four ounces of linſeed oil, and half

an ounce of oil of vitriol; pour the oil of vitriol into the linſeed oil, by a little at a time, or you will fire the oil; and when mixed, you muſt lay a little on at a time till you waſte the ſubſtance.

A Drying water for the Greaſe.

Take half a pound of white wine vinegar, or vergus, and Ægyptiacum two ounces, white vitriol half an ounce, ſugar of lead one ounce, to be boiled altogether. The ſubſtance to be powdered, and put in a bottle for uſe.

A Piſſing Drink for the Greaſe.

Take four ounces of white roſin, two ounces of caſtile ſoap, two ounces of ſalt petre, half an ounce of balſam of copivi, to be given in a pint of onion tea.

To make Onion Tea.

Take one pound of onions, ſhred them ſmall, put them into a pitcher, and pour a quart of boiling water on them; when cold, ſtrain the onions from the water and mix it among the powders.

To kill Worms in Horſes.

Take one pound of ſavan that grows in gardens, boil a quart of water, and pour on the ſavan; let it infuſe in 5 or 6 days, ſtopped up cloſe. Then ſtrain of, and give half of the liquor in the morning, and half an ounce of Æthions mineral, and give the ſame a week after: and after that give two or three times half an ounce of Æthiops mineral, one ounce of flour of ſulphur, and one ounce of ſalt petre. Be careful of cold when you give the firſt medicine.

Phyſic for a Horſe.

Take Barbadoes aloes one ounce, caſtile ſoap one ounce, oil of anniſeeds half on ounce, the aloes muſt be 16 drams to an ounce: mind to powder them well, and mix it to a ball, and give the horſe it in the morning, and it will work the day following.

Or this. Take Barbadoes aloes twelve drams, cream of tartar one ounce, ſyrup of buckthorne one ounce, ſena in powder half an ounce, liquorice powder one ounce, and as much ſweet oil as will work it into a ball. To be given in the ſame manner.

Faſcy

Faſey or Feltrecls.

Firſt bleed well if your horſe be well in fleſh, then take four ounces of ſtone brimſtone, four ounces of roach allum, four ounces of which roſin, to be powdered and given in cold water. If there be any breaking out, you muſt dreſs it with a ſalve made of mercurial ointment, and oil of turpentine, melted gently together.

For Surfeits in Horſes.

Take a little blood from them, and then give them as follows:

Take liquorice powder one ounce, gum guaiacum half an ounce, fenugreek powder two ounces, turmeric in powder one ounce, geamander ſeeds in powder half an ounce, mix them together, and to be given in warm ale and a little treacle.

For Yellows or Jaundice.

Bleed well if the horſe be in good fleſh, and then take ground ivy, whick roots, and turmeric roots, four ounces of each; boil them in a quart of water, when cold ſtrain off, and add half an ounce of liver of antimon, and half an ounce of ſalts of prunel. To be repeated every five days after.

For Fevers in Horſes.

Firſt let blood, a little at a time but often, and give him the following ball, about the bigneſs of a hen's egg, every morning:—Anniſeeds, carraway ſeeds, and the greater caradoman in powder two ounces, flour of ſulphur two ounces, oil of anniſeeds one ounce, ſpaniſh juice two ounces, ſugar-candy four ounces, ſaffron in powder half an ounce, and mixed up with ſweet oil.

For Sleepy Stackers.

Let blood two or three times in twenty-four hours, and give him juniper berries four ounces, balſam of copivi half an ounce, oil of juniper thirty drops, fenugreek powder two ounces, to be mixed together, and given in warm ale, and repeated every twenty four hours, till better.

For the Belly Ach. or Gripes.

Take a bottle of Daffy's Elixir, and give it to the horſe, and let a little blood, and it is a ſafe and certain remedy.

For the Cholic.

Take four ounces of Venice treacle, and a pint of Holland's gin, and take a little blood from the horſe.

For the Gravel.

Take oil of turpentine one ounce, ſpirits of ſweet nitre half an ounce, thirty drops of oil of juniper, and to be given all together.

For Strains in general.

Take oil of origany one ounce, oil of ſwallows two ounces, oil of bricks one ounce, and ſpirits of wine one ounce; to be applied to the place affected.

I have laid down moſt part of the diſorders incident to horſes and cows, that are curable: As for the ſcab, there are ſo many, that I never gave my mind to it. As for broken wind, blonders and ſuch like, there is no cure for them; but I ſhall give you a receipt for a cough or cold, to prevent broken wind.

For a Cough, or Cold.

Take honey two ounces, balſam of ſulphur one ounce, laudanum balſam one ounce, oil of anniſeeds half an ounce, to be given in warm ale. To be repeated if no better.

CHAP. VI.

Rules for buying Road Horſes, and their Management on Journies.

HAVING gone through the different diſorders incident to horſes; it is proper to ſhow the neceſſity every traveller lies under of having ſome knowledge of the art of managing his horſe, and the many inconveniences frequently attending the want of this knowledge, are ſo evident that nothing need be ſaid to evidence the uſefulneſs of this article. I ſhall therefore without any further preamble, give a few hints to aſſiſt my readers in buying ſuch horſes as are fit for the road, and then treat of their management.

As

As to the firſt part of this taſk, it is the more neceſſary ſince whoever would buy a horſe, ſhould know how to chuſe him himſelf, and never place the leaſt confidence in the words of a jockey or dealer in horſes.

Rules for buying Horſes.

If a horſe be young, his tuſks will be ſharp pointed and groved, or hollowed on the inſide; but the jockies have the art of burning the corner teeth of an old horſe, after they have been cut with a graver, by which means they imitate the mark, and frequently deceive: yet the cheat is diſcoverable by other ſigns; as when he hath white eye-brows, he may be ſuppoſed to be about 15 or 16 years of age; the age of a horſe may alſo be known by the length and yellowneſs of his teeth, the leanneſs of the roof of his mouth, and the narrowneſs of the under jaw.

But it is not ſufficient that you are not deceived in buying an old horſe for a young one; the eye is carefully to be examined, leſt you ſhould buy a horſe that is blind, or that hath ſome defect in the ſight. The beſt eye is of a hazel colour, and it is an advantage to have it rather large than ſmall; the part commonly called the ſight of the eye ſhould be perfectly bright or clear, without the leaſt dimneſs, ſo that you may ſee the bottom, and the image of your face reflected from thence and not ſeen from the ſurface; and you ſhould alſo obſerve, if upon the changing the ſituation of the horſe with reſpect to light, you can diſcern the ſight of the eye contract or dilate itſelf. This added to the clear tranſparency already mentioned, is a proof of the goodneſs of the eye.

But to proceed. Every man who buys a horſe ſhould chuſe one whoſe ſize and ſtrength are in proportion to the weight he is to carry; but in general a middle ſized horſe is beſt for the road, and one of 14 hands and an inch is ſufficient of ſtrength to carry any man under 15 ſtone.

After the jockey has exerciſed his horſe before you, you ſhould ride him yourſelf two or three miles on a rough uneven road, when you ſhould give him his head, without forcing him by whip or ſpur to perform with more life and ſpirit than he is otherwiſe inclinable: if he walks,

trots, or canters nimbly, without dwelling upon the ground, taking up his fore feet moderately high, ſtepping longer or ſhorter according as he finds there is occaſion, and going near before and wide behind, he is likely to carry his maſter well. But it is to be remarked, that the beſt proof of the excellency of a road horſe is his trotting down hill, where it is pretty ſteep; for if he is able to perform this well, he is able to trot on any ground whatſoever.

Captain Burdon, in his Pocket Farrier, adviſes thoſe that want to buy, to obſerve that the horſes knees are not broken. This is a very good caution, and it is what all people are, or ought to be aware of; yet as one who is no common ſtumbler may have an accidental fall, you ſhould obſerve whether the knees are covered with hard ſcars, which if they be, and the hair is curled about them, it is a certain proof of his being an old offender.

If a horſe goes clean, it is a pretty ſure ſign that he moves well upon his limbs; therefore when you ſee a perſon alight at an inn, with his boots tolerably free from dirt, you may almoſt venture to buy his horſe without ſeeing him exerciſed.

The horſe that has his breaſt full and prominent is very unfit for traveling; therefore, before you buy a horſe, ſtand right in a line with his head, and mind that his breaſt do not keep his knees too far aſunder, for the nearer he ſtands with his knees, provided he does not cut, the more reaſon you have to judge that he will travel expeditiouſly, therefore take particular notice that his breaſt be narrow, thin, and lean, his ſhoulder points not projecting forward, and his forelegs ſtraight and almoſt perpendicular.

To conclude this article, there is ſcarce a better property in a horſe than a ſound tough hoof, that will abide hard road without much beating. A foundered hoof is very often long and deep, and ſhaped more like that of an aſs than of a horſe; but the good hoof his ſimicircular, and rather flat than otherwiſe.

Rules

Rules for Travelling

When you ſet out on a journey, obſerve whether the ſhoes be faſt, whether they ſit eaſy, or whether they do not cut either before or behind. If a horſe cuts with bad thin ſhoes; he will probably do it when he is freſh ſhod; but this may ſometimes be helped by a good ſmith.

Moſt of the diſorders to which horſes are ſubject, are produced by the negligence or ignorance of the rider; and as they may eaſily be prevented by proper care; they are cured without difficulty, if taken in time. It is true, it is much more eaſy to prevent diſeaſes than to cure them; for if a horſe be well curried, bruſhed, and wiped down with a cloth, morning, noon, and night, and duly exerciſed and well fed, he will ſeldom be out of order.

This advantage of currying and rubbing down is inconceivable; it promotes a circulation of the blood opens the pores, and conſequently prevents a ſtagnation of fluids, promotes perſpiration, and is the readieſt way of preſerving health.

The moſt common cauſe of greaſe and ſcratches, are the careleſſneſs, the haſtineſs and indolence of the groom; for unleſs the blood is kept in a balſamic ſtate, by proper exerciſe, clean, ſweet, and liberal feeding, that fluid, from which all the humour of an aminal body are derived, muſt conſequently become deprrved. As exerciſe ventilates the blood, ſo keeping the ſkin clean and ſmooth, occaſions an eaſy perſpiration through the pores: for if after hard riding, we ſuffer our horſes to lie with the ſweat drying upon them, we run the riſk of a violent ſurfeit, which in fact is the cauſe of moſt of the diſtempers incident to either human or brute creatures

As we have mentioned liberal feeding, it may not be improper before we proceed further, to mention what quantity of oats, &c. a man ſhould allow his horſe on the road.

A full ſized horſe that has a good appetite, and travels hard, may be allowed every day about ſix quarts of oats, half a pint of ſplit beans, and a good handful of wheat mixed together.

What is here ſaid with reſpect to the quantity of the oats neceſſary for a ſized horſe, may be a ſufficient guide as to what ſhould be allowed to thoſe of fourteen hands or under; therefore I ſhall only add, that he who will not allow his horſe the quantity of oats, &c. here mentioned, ſhould ride ſlowly, and make ſhort ſtages.

As we have been juſt mentioning the quantity of corn neceſſary to be given to a horſe on a journey, I ſhall give the young traveller a few hints relating to his watering his horſe on the road.

When a horſe travels he perſpires very much, and may therefore be allowed to drink a little now and then, as opportunity offers, and this will greatly refreſh him; but you ſhould never let him drink much at a time, for if you ſuffer him to drink his fill he will become dull and ſluggiſh; and beſides, if he be very hot, it may be attended with very bad conſequences. However, when you come within a mile and a half, or two miles of the place you intend to bait at, either at noon or night, he may drink more freely going a moderate trot afterwards, for by this means, the water will be well warmed in his belly, and he will go in cool. Yet carefully obſerve, that if there has been no water, or he has drunk none on the road, never ſuffer your horſe to be led to water, or to have his heels waſhed immediately after you arrive at your inn; let him have water luke-warm after he has ſtood ſometime in the ſtable; for much miſchief has been frequently done by imprudent riders, who, after having travelled hard, have let their horſes drink as much as they could, juſt after going into the inn or town where they intend to lie.

The obſervations relating to currying, feeding, and watering your horſe, if carefully obſerved, will be of great ſervice, and contribute more than any thing elſe to preſerve him in perfect health.

CHAP.

CHAP. VII.

To deſtroy Bugs, Lice, Fleas, Mice, Rats, Moles, Weaſels Caterpillars, Polecats, Badgers, &c.

To prevent Bugs from Breeding.

BUGS are not only become troubleſome in London, but are got into the country; and whereas people think they are bred of hog's hair, wood, wool, cloth and fur, theſe things breed only lice, moths, and worms; but bugs, proceed from old feather beds, whereon have long laid ſick and ſweaty people, which produces putrified ſmells and vapours; ſo does thoſe preſs-beds that have not the advantage of the pure air; as alſo cloſe rooms, where the air wants free egreſs and regreſs; from theſe cauſes bugs proceed; and alſo all conſumptions, weakneſs of the back, and ſuch like diſeaſes that people little think of. And if you obſerve, you ſhall never find theſe creatures in ſhops, or where no beds are or have been put. One way therefore to prevent them, is to waſh your rooms, and keep them very clean, and keep your windows open in the day time, that the air may come in, and in the morning lay open your bed cloaths, that the air may come in, and the ſun ſuck up the moiſture contracted in the night time; This is a great preſervative againſt all vermin, as alſo of your health and would uſe ſtraw or chaff beds, or quilts to lie on, a little ime would make them as pleaſant as down beds, but, however, let your feather beds be forced once in two or three years, and that will be a means to preſerve you from bugs and ſickneſs. Straw and chaff beds you may change with little charge as oft as you pleaſe. Now to deſtroy bugs already got into your houſes I ſhall give you the beſt receipts, which are as follows.

How to deſtroy Houſe Bugs.

Take the ſheet of paper which is next to the roll-tobacco; two grains of the oil of nitre, and as much ſweet oil as will ſpread over the ſheet of tobacco-paper, with a little powdered ſugar, lay this in any part of the room

room or place where they are, and it will deſtroy them.—This was communicated by a gentleman of Leghorn who never knew it to fail.

Take gun-powder beat ſmall, and lay ſome about the creviſes of your bedſtead and fire it with a match about your bedſtead and keep the ſmoke in; this do for an hour or more, and let the room be kept cloſe for ſome hours after. Or take ſprigs of fern, and lay upon the bourds, kills them.

Take a handful of wormwood and white hellebore, boil them in urine till it is half waſted, and waſh the joints of your bedſtead with it.

Take a quantity of unſlack'd lime, put it into a quart of water, and let it ſtand three or four days, then pour off the water, and add a quantity of common ſalt, the ſtronger both of lime and ſalt the better; waſh the ſides of the wall and bedſtead with this liquor two or three times a week, it kills bugs and fleas.

Burn brimſtone under the joints of the bedſtead and creviſes where they lie, and they'll come out preſently, that you may kill them; do this two or three times a week, and keep the room cloſe.

Take a convenient quantity of good tar, mix the juice of wild cucumbers with it, and ſtir it five times a day for two days; then anoint your bedſtead with it, and it kills them.

Take a handful of rue and wormwood, and mix them with common oil, and as much water as will cover the rue and wormwood; let it boil till the water is all boiled away, then ſtrain out the oil from the herbs, and mingle with ſheep's ſuet as much as the oil; then anoint the bedſtead with it, and it is an infallible remedy.

Take ſoap ſuds that lies after your waſhing, and boil onions in it; then waſh your room and bedſtead with it.

Take ſtrong vinegar, and mix ſalt with it; then ſprinkle your room. This prevents bugs and fleas, and is very wholeſome in houſes or at ſea, ſo is rue, wormwood, and roſemary wholeſome to ſmell to, or vinegar alone.

Take three ounce of Guinea pepper; burn it on a chafing-

chafing-dish of coals in your chamber; shut the doors and windows, but take great care to go out yourself, or it will serve you as the bugs and fleas. This do twice a month in hot weather, and it will kill all sorts of vermin in the bed.

Hang a bears skin in the room, and they will be gone. Or get a trap about a yard and a half long, or more, if your bed is broad, and about half a yard in depth; put it at the head of your bed to the bottom of your pillow, and in the morning they will creep into it; take it into your yard, knock it, and they will drop out, so you may kill them. They are made of wickers, by basket-makers.

To conclude; let your rooms be kept clean, set open your windows when you rise, and lay your bed-cloaths open four or five hours, and it is the only way to prevent both bugs and lice.

To destroy Lice.

Take a little tarsbame, and boil it in spring-water: then when it is pretty well boiled, keep the water for use; rub a little of it about the scabby and lousy head, then put on a cap, and tie it on close. Use this with care, for it is the strongest poison imaginable; wash your hands after it, and be very careful.

Take staves-acre powdered, and mix it among the hair, then tie it with a cap, and it kills them. Or oil and staves acre.

Nits and Lice in the Head.

Take of bees wax an ounce, three ounces of olive-oil, and three drams of staves-acre: of these make a salve and anoint; it kills both nits and lice.

Take red orpiment and salt petre, each a dram, lause-herb two drams, mix them together with oil and vinegar, so anoint the head.

Lice to kill on Ship-board, Bed and Body.

Take May butter or unscalded cream an ounce, three pennyworth of quicksilver, warm them in a luted pot of loam, so stir them till they incorporate together, then take a small linen cloth of three inches, steep it therein; then take a piece of silk, and sew it into it, and hang it about the neck; oftentimes found certain by Dr. Thompson.

To kill Lice on Trees.

Through drought many trees and bushes become lousy, as sweetbriar, gooseberries, &c. therefore frequently wash them, or dashing them with water may prove the best remedy.

For Crab Lice.

Wash with the decoction of penny royal; some anoint with black soap. Or boil marjoram in water, and wash with it; or the juice of stinking gladon.

For Lice in the Eyelids.

Rub your eyelids with salt water, or brimstone and water, or with vinegar of squills, allum and aloes, and anoint the hair of the eyelids,

To kill Fleas.

Take lavender and wormwood, and boil them in vinegar well, and sprinkle your blankets with it; or savory laid in your chamber, destroys them.

Take wormwood well dried, and put it into a bag with holes in it, so place it under your bed; or fleawort laid under or about your bed kills them; or take wormwood, nut leaves, lavender, eye-averen. and green coriander, put them under the bed or pillow, and the fleas will die.

Agrippa says. that goat's milk lye is an infallible remedy being sprinkled about the room.

Mustard-seed boiled in water, and the room sprinkled with it. Arsmart (the hot sort) strewed in a chamber, kills all the fleas; and put under the saddle of a tired horse, will make him travel well.

To kill Fleas and Wall-Lice.

Take the decoction of thistle or arsmart, or coloquintida, bramble, or colewort leaves. and sprinkle about the house, drives them away. Or anoint a stick with the grease of a hedge-hog, and lay it in the room, and the fleas will gather and stick to it.

Take southernwood, rue, wormwood, savory, walnut leaves, lavender, flea-seed, lay all these (or some of them) under the blankets; or else boil them in vinegar and sea-onions, and with that besprinkle the bed.

RATS

RATS or MICE.

The following Receipt was communicated by an ingenious Gentleman, who never knew it to fail.

To deſtroy Norway Rats.

Take two ounces of glaſs, one ounce of cream of tartar, one grain of muſk, four grains of cinnamon, half an ounce of anniſeeds, all pounded, and one ounce of malt duſt, mix them with a jill of ſweet oil, and make it into a paſte. Great care muſt be taken that no children or cattle get at it, for the taſting it will be attended with immediate death.

Rats or Mice.

Take ratſbane, powder it, and mix it with freſh butter or make it into a paſte with barley, or wheat-meal and honey, and lay it on trenches or boards where they come, they will eat it, and it makes them drink till they burſt. It is a ſtrong poiſon, therefore be very careful in uſing it, and waſh your hands after it. Or unſlacked lime and oatmeal mix'd, and laid on boards where they come, deſtroys them.

To take Rats, or Mice eſpecially.

Take a board three feet ſquare, and lay a piece of ruſty fry'd bacon in the middle, then lay it pretty thick with birdlime, leaving them ſome alleys for them to come to it, and they will get among the birdlime and ſtick, drawing and ſqueaking, that it will make you ſport. One ſaid, he had catched twelve in a night. In Staffordſhire they put birdlime about their holes, and they running among it, it ſticks to their ſkins, that they will not leave ſcratching till they kill themſelves. Or, take coloquintida and oatmeal, make it into a paſte, and lay it where they come.

Rats and Mice to kill.

Black hellebore and the ſeeds of wild cucumber mixed with ſuch food as they eat, kills them. Or, mix powdered hellebore with wheat or barley-meal only, made into ſtiff paſte with honey, and laid where they come, they eat it; it is preſent death; but great care muſt be taken, leaſt any other thing ſhould eat and be poiſoned.

Rats and Mice to frighten away.

Set a trap over night, with a piece of ſtrong toaſted cheeſe, and you will be ſure to have one or more in the morning; then take a little aqua fortis, and ſprinkle them with it, and immediately let them run into their holes. By the heat of the aqua fortis they will cry to ſuch an exceſs, that it will frighten the reſt away, and they will expire in their holes.

Rats and Mice to keep from Cheeſe.

Agrippa ſays, that hog's lard mixed with the brains of a weaſal, and laid in large pellets or quantities about the room, they will not come into that room.

To make Rats and Mice ſcabby.

Put oak-aſhes in their holes, and they running among them, makes them ſcabby, and ſo deſtroys them.

To drive away Rats and Mice.

Make a fume with ſmallage ſeed, origanum, and aigilla all or any of them, and it drives them out of the houſes. Alſo lupins or green tamarinda burnt in the room drives them away.

That Rats and Mice may not eat Books.

Let the printers put infuſion of wormwood into their printing ink, and they will never eat the printed paper.

To deſtroy Field Rats and Mice.

In the dog days the fields are generally bare, then find out their holes or neſts, which are little and round like an augre hole, and put hemlock ſeed thereinto, or hellebore mixed with barley; they eat greedily ſo it kills them. Chips of cork fryed in fuet, and laid where they come, deſtroys them.

That Mice may not deſtroy Seed Corn.

Steep your ſeed in bull's-gall, and they will not touch it.

To preſerve Artichokes from Rats and Mice.

They are great lovers of artichokes, and will come to them in troops: To prevent this, wrap wool about their roots, and they'll be gone. Or hog's dung, or fig-tree aſhes laid about them, will drive them away.

Mice and Rats to catch in the Field.

Place an earthen Pot in the ground, half full of water, and

and cover it with a board with a hole in the middle of it, and then cover the board with haum, ſtraw, or ſuch like rubbiſh, under which the mice will creep for ſhelter, creep into the hole and ſo drop into the water and be drowned.

MOLES.

Take a head or two of garlick, onions, or leek, and put it into their holes, and they'll run out as if amazed, and ſo you may with a ſpear or dog get them.

To kill Moles.

Take the dregs of oil, or the juice of wild cucumbers, and pour it into their holes, and it kills them. Or, ſtrong lye of copperas and water, and in the morning early make a hole in all the heaps with a broomſtick, and in the evening pour this water into the holes, it deſtroys them.

Beat hellebore, white or black, and with wheat flour, the white of an egg, milk and ſweet wine or methlegin, make it into paſte, and put ſmall pellets as big as a ſmall nut into their holes, and they will eat it with pleaſure, and it deſtroys them.

Pliny ſays, take an earthen jug-bottle with a big-belly, and narrow neck, and put bees-wax, roſin and brimſtone, and cedar-wood cut ſmall into it; ſet theſe on fire and ſtop all the mole holes cloſe, but one, which being opened put the mouth of the pot into it, and it will choke them.

To drive Moles away.

In places you would not dig nor break much, the fuming their holes with brimſtone, garlick, or other unſavoury things, drives them away; and if you put a dead mole into a common haunt, it will cauſe them abſolutely to leave it.

To deſtroy Moles an incredible way.

A mole-catcher and his boy, in ten days, in the ſpring-time, in a ground of 190 acres, caught near three buſhels of old and young, by caſting up their neſts only, which are always built in a great heap as big again as the reſt, eaſily diſcerned; then would the old ones ſoon come to ſee after their young, which they would ſnap up.

If you have a conveniency of bringing water over your ground, it will deſtroy them as far as it goes. Blith's Husbandry.

Another.

To catch them in trenches ſpoils much ground; therefore get a mole ſpear or ſtaff and where you ſee them caſt, go lightly; but not on the ſide betwixt them and the wind, leſt they perceive you; and at the firſt or ſecond putting up of the earth, beat them with your mole-ſtaff downright, and obſerve which way the earth falls moſt; if ſhe caſt toward you, ſtrike ſomewhat on the right hand, and ſo on the contrary to the caſting up of the plain ground, beat down, and there let it remain; then pull out the tongue in the ſtaff, and with the ſpattle or flat end, dig round about the grain to the end thereof, to ſee if you have deſtroyed her; if you have miſſed her, leave open the hole, and ſtep aſide a little, and perhaps ſhe will come to ſtop the hole again, for they love but very little air, and then beat again, but if you miſs her, pour into her hole two gallons of water, and that will cauſe her to come out for fear of drowning; mind them going out in a morning to feed, or coming home when fed, and you may get a great many.

To catch Moles another way.

In March or April, the ground is ſoft, and they run ſhallow, and alſo after a rain, and by hill-ſides, and in the ruts of carts, and when you ſee ſuch newly wrought, tread it down always ſoftly, and then at her accuſtomed hours, which is uſually at ſpring-time from about 6, 8, and 11 in the morning, and in the evening about 3 or 4, or 7, ſhe will ſtir up the earth in the ſaid trenches, and ſo go from trench to trench, and then watch diligently and liſten, and you will either hear or ſee her moving the earth in the trench, then ſtop down the broad end of your ſtaff acroſs the hole behind her, and with your foot before her, ſo ſtop the way behind with your ſtaff, and before with your foot, and then get her up with your ſpattle. Moles generally go abroad about ſun-riſing, or ſoon after; in dry hot weather moles ſeldom go abroad but in the morning, but in moiſt weather twice a day, forenoon and afternoon; in froſty weather they get under trees and ſtrong hedges and buſhes; in wet ſeaſons, and winter they lie moſt

moſt under hills or hedges, the roots of trees and hills, and come out every morning to go abroad (if it is dry) 2 or 300 yards from their holes, and after an hour or two feeding, return home: then obſerve where they have been, and there make trenches and chop the earth down with the ſpattle or broad end of the mole ſtaff, which ſhe hath before raiſed and paſſed through, and there tread it down with your foot in trenches lightly, and the longer the trenches are, the longer ſhe is in paſſing through them. Make trenches in the moſt convenient place in the ground; if you make them nigh their holes, it is beſt to make them going out or coming home. Make their trenches along by the hedge ſide or nigh banks and roots of trees, for that is beſt.

To make an inſtrument to deſtroy Moles.

The beſt inſtrument to deſtroy them is made thus:—Take a ſmall board of about three inches and a half broad, and five inches long, on the one ſide thereof raiſe two ſmall round hoops or arches, and at each end, like unto the two ends of a carrier's waggon or a tilt boat, large enough that a Mole may paſs through them; in the middle of the board make a hole that a gooſe quill may paſs through, then is that part finiſhed; then have in readineſs a ſhort ſtick about two inches and a half long, about the bigneſs that the end thereof may juſt enter the hole in the middle of the board; alſo you may cut a hazle or other ſtick, about a yard, or a yard and a half long, that being ſtuck in the ground may ſpring up like unto the ſpring they uſually ſet for Fowls; then make a link of horſe hair very ſtrong that will eaſily ſlip, and faſten it to the end of the ſtick that ſprings; alſo have in readineſs four ſmall hooked ſticks; then go to the furrow or paſſage of the mole, and after you have opened it, ſet in the little board with the bended hoops downwards, that the mole when ſhe paſſes that way, may go directly through the two ſemicircular hoops. Before you fix the board down, put a hair ſpring through the hole in the middle of the board, and place it round, that it may anſwer to the two end hoops, and with the ſmall ſticks, and gently put in the

hole

hole to ſtop the knot of the hair ſpring: place it in the earth in the paſſage, and by thruſting in the four hooked ſticks, faſten it, and cover it with earth, and then when the mole paſſes either one way or the other, by diſplacing or removing the ſmall ſtick that hangs perpendicularly downwards, the knot paſſes through the hole, and the ſpring takes the mole about the neck. Though the deſcription ſeems tedious, yet this is very plain, and eaſily performed; the vermin being ſo very prejudicial, even worſe to ground than ſwine.

WEASELS.

Take ſal ammoniac, and beat it, and with wheat flour and honey make it into a paſte, with the white of an egg, and lay it in pellets where they come, and they eat it, and it kills them.

Put bells about his neck, and let him run about your houſe, and he'll frighten away all the mice. 'Tis their nature to deſtroy mice, therefore ſome people love to have them about their houſes.

Lay rue about the hens that lay, and they'll not come near them.

The ſmell of a burnt cat drives them away; as all inſects will be frighted away with their own kinds being burnt.

CATERPILLARS.

Caterpillars deſtroy the leaves of trees, and devour cabbages and other tillage, and are generally the effects of great droughts. To prevent their numerous increaſe on trees, gather them off in winter, taking the prickets away that cleave to the branches, and burn them.

Or, anoint the bottom round about with tar, then get many piſmires and put them in a bag, hang them ſo that they may touch the body of the tree; the piſmires can't get down for tar, ſo for want of food will devour the caterpillars.

When they are upon colwort or cabbages, take ſome ſalt water and ſprinkle them with it, and it will kill them.

Caterpillars of many Sorts, the Wolf, the Black Fly, the Calendar Worm, &c.

The moſt hurtful is wolf and calendar worm, that

lurk in the heart of flower buds, ſhutting them up that they cannot open, which they conſume; the trees that blow early, look as if ſinged by light'ning; thoſe that blow late are not ſubject to this evil.

But for this diſeaſe that has been accounted incurable and all other enemies, Take three ounces of wormwood, one ounce of aſſa fætida, ſteep and break them, and boil with four pails water in the air, becauſe they are ſtinking ſmells, and when boiled, ſtrain out the ingredients through a linen cloth, and uſe it when cold at pleaſure, before the bud be opened, and they will do no harm to the tree. You may alſo add other ingredients, as tobacco ſtalks, wild vines, coloquintida, or the like, and expect very good iſſue.

Green Bugs to deſtroy, that hurt green Plants and Roſe Trees.

To kill green bugs in gardens, ſprinkle the places where they fix with ſtrong vinegar, mixed with the juice of henbane; or, ſome water the plants haunted by them with the cold decoction of muſtard and laurel-ſeed in water; ſome quaſh them with their fingers, which is a good way; or flea-bane boiled in water, and ſprinkled kills them.

An univerſal Remedy againſt all Animals offenſive to Flowers.

Democritus ſays, put 8 or 9 crabs in an earthen pot with water, and let them ſtand eight days in the open air, then take of this water, and water your plants in their infancy; repeat the ſame once in eight days, and you will find it effectual againſt all ſorts of vermin.

Frogs to kill.

Theſe vermin are beſt deſtroyed in February, in the ditches where they ſpawn, by deſtroying both frogs and ſpawn.

To gather Frogs and kill them.

Take a ſheep, ox, or goat's gall, and bruiſe it by the water ſide, and the frogs will gather to it.

To prevent Frogs croaking.

Set a lanthorn and candle upon the ſide of the water

or

or river, that waters your gardens, it is done. Toads will not come near ſage if rue is planted about it.

Snakes and Adders to drive from the Garden.

Wormwood planted in divers places, they will not come near it.

The roots of centaury laid about your ground, will make them depart. Or, lay deer-ſuet about the place, and they'll be gone.

For the Bite or Sting of a Snake or Adder.

Take the juice of aſh-tree leaves ſqueezed into good white wine, or beer, and drink it, and waſh with it, then cover the place ſtung with aſh-tree leaves, and it cures you, ſays Agrippa.

Piſmires, Flies, Earwigs, and Spiders, that hurt Orange-Trees, Carnations, &c.

Theſe are very troubleſome vermin in gardens, eſpecially where carnations are preſerved; for they are ſo fond of theſe flowers, that if care is not taken to prevent them, they will entirely deſtroy them, by eating of the ſweet part at the bottom of the leaves.

To prevent which, moſt people have ſtands erected, which have a baſon of earth or lead round about each ſupporter, which is conſtantly kept filled with water. Others hang the hollow claws of crabs, lobſters, &c. upon ſticks in divers parts of the garden, into which theſe vermin get; and by often ſcratching them, you will deſtroy them without much trouble; which will be of great ſervice to your wall-fruit, for theſe are great deſtroyers thereof. Miller's Gardener's Dictionary.

Piſmires, Earwigs, and other Vermin that hurt gardens.

In gardens are July flowers, which are ſubject to harm, both by rain and the ſun, and much watering and from earwigs and piſmires. The rain ſpots them; ſtrong water ſpoils them, eſpecially at the laſt of their blowing. Piſmires gnaw the flowers, and make holes in the leaves. Earwigs devour the flowers, at leaſt the leaves, that they fall out of the ſhell. To preſerve them, let the ſun be upon them but one hour in the day, and they will laſt long.

To prevent Earwigs and Piſmires from Flowers.

Take glue boiled in linſeed oil, and lay this round

A Secret to hinder Pigeons from quitting a Pigeon-Houſe.

Take the head and feet of a gelt goat, and boil them together till the fleſh ſeparates from the bone: take this fleſh and boil it again in the ſame liquor, till the whole is conſumed; bruiſe into this decoction, which is very thick, ſome potter's earth out of which you are to get all the ſtones, vetch dung, hemp, ſoot and corn; the whole muſt be kneaded together, and reduced to a paſte or dough which form into ſmall loaves about the thickneſs of two fifts, and dry them in the ſun or oven, and take care they do not burn; when they are baked lay them in ſeveral parts of the pigeon houſe, as ſoon as they are ſet there the pigeons will amuſe themſelves with picking them, and finding ſome taſte therein which pleaſes them, they will keep ſo cloſe to it that they will not afterwards leave it but with regret. Others get a handful of ſalt, which they candy, and afterwards put it into the pigeon-houſe. Some take a goat's head and boil it in water, with ſalt, cummin, hemp, and urine; and then expoſe it in the pigeon houſe, with which they amuſe the pigeons. Laſtly, there are thoſe who fry millet in honey, and add a little water thereto to prevent its burning; this preparation is a repaſt to them, and will cauſe them to have ſuch an affection for their ordinary habitation, that they will be ſo far from abandoning it themſelves, that they will draw ſtrange pigeons to it.

Birds and Fowl of all Sorts to catch.

Get ſeeds (all ſorts that fowl love) and lay it to ſoak in lees or mother of wine, ſtrew it where they come, and it will fox 'em, ſo that you may catch them with your hands.

To keep Birds from Fruit.

Hang a bundle of garlick on a branch of a tree, or lay it in your corn ſtacks, and they will not touch your fruit. Some ſmear their tree branches with juice of garlick.

CHAP. IX.

The ART of PAINTING in OIL.

A Catalogue of the ſeveral Colours uſed in Painting with Oil.

WHITES.

THE principal of all whites is white lead. Of this colour there are two ſorts, the one called ceruſe which is the moſt pure and clean part, the other is called by the plain name of white lead.

Beſides white lead and ceruſe, there is another ſort to be met with ſometimes, which they call ſlake white.

BLACKS.

Lamb black. Lamp, or Candle Black, Ivory black. Willow charcoal.

REDS.

Vermillion is the moſt delicate of all light reds, being of itſelf a perfect ſcarlet colour.

Lake, eſpecially the richeſt ſort, is the beſt of all dark reds being a moſt pure crimſon.

Red lead is the lighteſt of all reds now in uſe; it is a ſandy, harſh colour, and ſuch a one as is not eaſily ground very fine, although you beſtow much labour on it.

Spaniſh brown is a dark dull red, of horſe fleſh colour; it is an earth, it being dug out of the ground, but there is ſome of a very good colour, and pleaſant enough to the eye, conſidering the deepneſs of its colour; it is of great uſe amongſt painters, being generally uſed as the firſt or priming colour, that they lay upon any ſort of work, being cheap and plentiful, and a colour that uſes well, if it be ground fine, as you may do with leſs labour that ſome better colour do require; the firſt ſort is the deepeſt colour, and free from ſtones; the other ſorts are not ſo good as to give a colour to the eye, but yet they ſerve as well as any other for a priming colour.

YEL-

YELLOWS.

Yellow oaker is of two ſorts, one called plain oaker, the other ſpruce oaker, the one is a much lighter colour than the other.

Pink yellow.

Orpiment is that colour which ſome call yellow arſnick.

Maſticote is a good light yellow for moſt uſes, eſpecially in making greens, of which ſeveral ſorts may be framed out of this colour, being mixed with blue.

GREENS.

Verdigreaſe is the beſt and moſt uſeful green.

Green bice is of a ſandy nature, and therefore not much uſed: green verditer is alſo of a ſandy colour; neither of them bear any good body, and are ſeldom uſed but in Landſkips, where variety is required.

BLUES.

Blue bice bears the beſt body of all bright blues uſed in common work, but it is the paleſt colour.

Blue verditer is a colour of no good body, but ſome thing ſandy, and of no very good colour itſelf, being apt to turn greeniſh, and being mixed with a yellow produces a good green.

Indigo is a deep blue, if wrought by itſelf, to remedy which, whites are uſually mixt, and then it is but a very faint blue.

Note, that the longer this colour is ground, the more beautiful and fair it looks.

Smalt is the moſt lovely blue of all others.

Note, that of this colour there are two ſorts, the fineſt is that which is called oil ſmalt.

Umber is a color that has no affinity with the others above mentioned, being neither white, black, red, yellow, blue, or green, yet it is a colour of as great uſe as any of the reſt in common painting.

The practice of working oil colours, and painting timber-work after the manner of common painting.

That which I here call common painting, is only the way and manner of coloring all manner of wainſcot, doors, windows, poſts, rails, pales, gates, border boards,

for gardens, or any other materials that require either beauty or preſervation from the violence of rain, or injury of weather; the method of doing which I ſhall lay down as plain as I can. Suppoſe then, that there be a ſet of palliſadoes, or a pair of gates, or ſome poſts and rails to paint, and I would finiſh them in a ſtone colour, firſt look over the work, and take notice whether the joints be open in the gates, or whether there be any large clefts in the poſts, for if theſe are not ſecured the wet will inſinuate itſelf into theſe defects, and make the quicker diſpatch in ruining the whole; let the firſt buſineſs therefore be, to ſtop up theſe places ſmooth and even, with a putty made of whitening and linſeed oil, well beaten together on the grinding ſtone, with a woodden mallet, to the conſiſtency of a very ſtiff dough, and with this let all the crannies, clefts, and other defects be perfectly filled up, that it may be equal to the ſurface of the ſtuff, then proceed to the priming of the work with ſome Spaniſh brown well ground and mixt with very thin linſeed oil; with this do over the whole, giving it as much oil as it will drink up; this in about two days will be indifferently dry, then if you would do it ſubſtantially, do it over again with the ſame priming colour; when this is thoroughly dry, then with the white lead, well ground and tempered up, not too thin, for the ſtiffer you uſe it, the better body will be laid on, and the thicker coat of colour that your timber is covered withal the longer it will laſt; let this colour be well rubbed on, and the whole ſurface be ſo entirely covered that there remain no creek or corner bare, which you may eaſily do by jobbing in the point of a briſtlebruſh; let this firſt colouring dry, and then go over it a ſecond time, and if you pleaſe a third; the charge will be a little more, but the advantage will be much greater.

Now he that is able to bring the work thus far on, has proceeded to the higheſt pitch of that common painting, and that aims at preſervation as well as beauty; but this is not all, for he that is arrived thus far, is in a fair way to other protections in the heart of painting: but the panelling of wainſcote with its proper ſhadows, and for

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imitating olive and walnut wood, marble, and ſuch like; theſe muſt be attained by occular inſpection, it being impoſſible to deliver the manner of the operation by precept without example, and I am bold to affirm, that a man ſhall gain more knowledge by one day's experience than by a hundred ſpent to acquire it ſome other way.

I adviſe therefore thoſe that deſire any inſight into this buſineſs, to be a little curious, if opportunity offers, in obſerving the manner of a painter's working, not only in grinding his colours, but alſo in laying them on, and working them in: in all theſe obſerving the motion of his hand in managing any kind of tool, and by this means with a little imitation, joined to the directions here given, I doubt not but in a ſhort time you may arrive to great proficiency in the buſineſs of common painting.

Note, That if when you have made uſe of your colours, there be occaſion for a ſmall ceſſation till the whole is finiſhed; in this caſe it is beſt to cover the colours in your pot with water, for that will prevent their drying, even in the hotteſt time.

And for your pencils, they ought ſo ſoon as you have finiſhed, to be well waſhed out in clean linſeed oil, and then in warm ſoap ſuds; for if either oil or colours be once dryed in the bruſh or pencil, it is ſpoiled for ever.

It has been obſerved, that timber laid over with white when it has ſtood for ſome time in the weather, the colour will crack and ſhrink up together, juſt as pitch does, if laid on any thing that ſtands in the ſun; the cauſe of this is, that the colour was not laid on with a ſtiff body, able to bind itſelf on firm and faſt.

If you ſhall have at any time occaſion to uſe either bruſhes that are very ſmall, or pencils, as in many caſes there will be occaſion, you ought then to diſpoſe of the colours you uſe upon a pallet (which is a wooden inſtrument, eaſy to be had at any colour ſhop) and there work and temper them about with your pencil, then the pencil may carry away the more colour; for you are to note, that if a pencil be only dipt into a pot of colour, it brings out no more with it than what hangs on the outſide,

ſide, and that will go but a little way, whereas if you rub the pencil about the colour on the pallet, a good quantity of colour will be taken up in the body of the pencil; and beſides all this you may bring your pencil better to a point on a pallet, than you can do in a pot; the point of a pencil being of the greateſt uſe in divers, caſes, eſpecially in drawing of lines and all ſorts of flouriſhing.

What Colours are moſt ſuitable and ſet off beſt one with another.

By ſetting off beſt, I mean their cauſing each other to look more pleaſant, for two of ſome particular colours put together, or one next the other, ſhall add much to the beauty of each other, as blue and gold, red and white, and ſo on; but green and black put together, is not ſo pleaſant, neither doth black and umber, or haw colour appear well.

Yellows then ſet off beſt with blacks, and blues, and with reds.

Blues ſet off beſt with white and yellows.

Greens ſet off beſt with blacks and whites.

Whites ſet off well enough with any other colour.

Reds ſet off beſt with yellows, whites and blacks.

Gold looks neat upon a white ground, if the matter to be gilt be carved.

Gold and black ſhews very well.

Gold on timber colour ſhews very well.

So does gold and horſe-fleſh colour, made with the brighteſt ſpaniſh brown.

But the moſt glorious ground of all others for gold, are vermillion red, the ſmall blue, and the lake, laid on a light green.

Of ſome Colours that ariſe from Mixture.

Aſh colour is made of white lead and lamb black; if a deep aſh colour, then take the more black, if a light one, then but little black, and moſt white.

A lead colour is made of Indigo and white.

A colour reſembling new oaken timber, is made of umber and white lead.

A fleſh colour is compounded of lake, white lead, and a little vermillion.

A buff colour, yellow oaker and white lead.

For a light willow green, verdigreaſe and white.

For a graſs green, verdigreaſe and pink.

A carnation is made of lake and white.

Orange colour, yellow oaker and red lead.

A light timber colour, mix ſpruce oaker and white, and a light umber.

Brick colour, red lead, white and yellow oaker.

For a ſtraw colour, white lead and yellow oaker.

Olive wood is imitated with oaker, and a little white veined over with burnt umber.

Walnut tree is imitated with burnt umber and white, veined over with the ſame colour alone, and in the deepeſt places with black.

Pales and poſts are ſometimes laid over with white, which they call a ſtone colour.

Sometimes poſts and pales are laid over with indigo and white which is called a lead colour.

Window frames are laid in white, if the building be new, but if not they are generally laid in lead colour, or indigo and white, and the bars with red lead.

Doors and gates, if painted in pannels, then the ſhadows of a white ground are umber and white, but if laid in lead colour, then the ſhadows are lifted with black.

'Tis not poſſible to ſet down all thoſe varieties of colours that may be produced by mixture; they that would ſee more, may peruſe Dr. Salmon's Polygrafice, where they ſhall find great variety.

CHAP. X.

How to make Gold and Silver Size. To gild with Gold and Silver, on an oily Size, either Letters or Figure, &c.

To make Gold and Silver Size.

THE operation is thus for making of gold ſize; get yellow oaker, and grind it on a ſtone with water till

it be very fine, and afterwards lay it on a chalk ſtone to dry; this is the common way; or waſh your oaker, for when it is waſhed, to be ſure nothing but the pureſt of the colour will be uſed; and beſides it is done with leſs daubing.

When your oil and oaker are thus prepared, you muſt grind them together as you do other oil colours only with fat drying oil, but it is ſomewhat more laborious, and muſt be ground very fine, even as oil itſelf; for the finer it is the greater luſtre will your gold carry that is laid on it.

Here note, that you muſt give it ſuch a quanti y of your fat oil, that it may not be ſo weak as to run when you have laid it on; nor ſo ſtiff that it may not work well; but of ſuch a competent body, that after it is laid on, it may ſettle ſmooth and gloſſy, which is the chief property of good ſize.

Silver ſize is made by grinding white lead with fat drying oil, ſome adding a little verdigreaſe to make it bind.

To gild with Gold, either Letters or Figures.

Whatſoever you would gild muſt be firſt drawn with gold ſize according to the true portion of what you would have gilt, whether figure, letter, or whatever elſe it be; when you have thus drawn the true proportion of what you would have gilt, let it remain till it be ſufficiently dry to gild upon, (which you ſhall know by touching it with the end of your finger,) for if your finger ſticks a little to it, and yet the colour come not off, then it is dry enough, but if the colour come off on your finger, then it is not dry enough, and muſt be let alone longer; for if you would then lay your gold on, it would then ſo drown it, that it would be worth nothing; but if your ſize ſhould be ſo dry as not to hold your finger as it were to it, then itis too dry, and the gold will not take; for which there is no remedy but new ſizing; therefore you muſt watch the true time, that it be not too wet or too dry; both extremes being not at all convenient.

When your ſize is ready for gilding, get your book of leaf gold, and opening a leaf of it, take it out with your cane plyers, and lay it on your gilding cuſhion, and if it

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your tub four inches broad, and if they go to climb up, they will ſtick in it, but if any ſhould get up, lay on the top of July-flower ſticks, paper caps, lobſter claws with ſome wool or tow in them, and in the morning you will find much vermin in them.

To poiſon Piſmires.

Make a box of cards or paſteboard, prick it full of holes with a bodkin, and put in them powder of arſenick and honey mingled together: hang theſe boxes on the trees and it will deſtroy them. Make not the hole too large, leſt bees get in and be poiſoned alſo.

Earth and Field Mice, Snails and other Vermin, that hurt Tulips.

To preſerve tulips from vermin, cover them with wooden frames four inches high, and do them over ſo cloſe with iron wires, that none of theſe vermin can get thro' to hurt them.

Snails to deſtroy.

Snails are great enemies to wall-fruit, and in a dewy morning you may eaſily find where they moſt delight to breed; but the beſt way is to find out their haunts in a hard winter, and to rid yourſelves of them. They lie much in holes of walls, under thorns, behind old trees, or cloſe hedges.

Alſo obſerve not to pluck that fruit they have begun with, but let it alone, for they will end that before they begin of another.

Set tiles, bricks, or boards againſt the walls, pales, &c. and they will creep under them for ſhelter: about Michaelmas they get to ſuch places for ſecurity the whole winter, except you prevent it by deſtroying them in December, which is the eaſieſt, beſt and ſureſt way to deſtroy them.

Snails, the Gardener's way.

Beſides what is wrote above, they ſeek them by break of day, or after rain, then they come out of the earth to feed, and eaſily deſtroyed. You ought to keep out of gardens, dogs and cats.

That Flies may not trouble Cattle.

Boil bay-berries in oil, and anoint them with it, and they will never ſit on cattle; or, wet the hair of horſes with the juice of the leaves of gourds at Midſummer, and they will not moleſt them. If cattle are anointed with the juice of arſmart, flies will not come near them though it is the heat of ſummer.

To prevent Moths eating Cloth.

Take beaten pepper, lay it among your cloaths, airing them firſt, it prevents them.

Take the branches of bay-tree and lay among cloth and woollen it preſerves them from moths, worms or corruption, ſo does moiſt hemp.

Laying wormwood among cloths, prevents moths from eating them.

Pieces of Ruſſia leather put in boxes, prevents moths and other vermin.

Moths to deſtroy.

About Auguſt they appear, and that moſtly in the thing, and if you ſet a candle in an apple-tree, lighted in the night, they will fly about it and burn themſelves, and you may find abundance of them dead in the morning.

Waſps ſtinging.

Apply a copper halfpenny, and boil it for a little ſpace, and it will eat the pain and prevent ſwelling.

Worms to deſtroy.

Water wherein the leaves and ſeeds of hemp are ſodden, ſprinkled on the earth, brings them out.

Sea water, ſprinkled on the ground, kills them. Or, ſalt and water made into brine, and ſprinkled on the ground. Some ſay, ſoot ſtrewed on the ground deſtroys them. Others commend chalk and lime ſtrewed on the ground.

Worms in Apple Trees to deſtroy.

Lay a ſea onion about the trees, to preſerve them from worms; if they come naturally, bull's gall or hog's dung mingled with man's urine, and poured to the roots, deſtroys them; but if they are hard to deſtroy, the bark muſt be digged into with a braſs pin or ſuch like tool, and

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tended till the point takes upon the worms, and drives them from the place; but where there is a place ulcerated ſtop it with ox dung: an apple tree plant the root being anointed with bulls gall, they and their fruit will be free from worms. Mizaldus.

Worms to prevent eating Cheſts of Drawers, or Woods.

Rub them with linſeed oil; or rub them with wormwood, rue, or other bitter herbs, preſerves them, and all wooden houſhold ſtuff that is rubbed with the lees of linſeed oil, and poliſhed, will look pleaſant.

POLE CATS.

If you can conveniently, have a channel about your pigeon-houſe, that will preſerve them and all other fowl, for no beaſt of prey will take the water.

Some make a dead fall to take them, which is made of a ſquare piece of wood, weighing 40 or 50 pounds; they bore a hole in the middle of the upper ſide, and ſet a crooked hook faſt in it; alſo they ſet four forked ſtakes faſt in the ground, and there lay two ſticks acroſs, on which ſticks lay a long ſtaff to hold the dead fall up to the crook, and under this crook they put a ſhort ſtick and faſten a line to it, this line muſt reach down to the bridge below: and this bridge you muſt make about 5 or 6 inches broad. Then ſet on both ſides of this fall, boards or pales, or hedge with cloſe rods, and make it ten or twelve inches high; let the paſſage be no wider than the fall is broad.

BADGERS.

Badgers are pernicious creatures, and deſtroy young lambs, pigs, and poultry.

Some take them in a ſteel-trap, or a ſpring, as foxes are taken.

Some make a pit-fall five feet deep, and four long, making it narrow at the top and bottom, and wider in the middle; then cover it with ſome ſmall ſticks and leaves ſo that it may fall in when he comes on it; ſometimes a fox is taken thus.

Others hunt the badger into his hole in a moon-light night, and dig him out.

FOXES to deſtroy.

Foxes are great deſtroyers of lambs, poultry, geeſe, &c. To deſtroy them, get a ſheeps paunch, and tie it to a long ſtick, then rub your ſhoes well upon it, that he may not ſcent your ſweaty feet; draw this paunch after you as a trail, a mile or more, and bring it near ſome buſhey-tree, leave your paunch and get into the tree with a gun, and as it begins to be dark, you will ſee him come after the ſcent of the trail where you may ſhoot him; draw the trail if you can to the windward of the tree.

To catch a Fox in a Steel Trap.

The beſt way is, to ſet your trap in the plain part of a large field, out of the way of all paths, yet not near a hedge or ſhelter; then open the trap, ſet it on the ground, and cut out juſt the form thereof in a turf, and get out ſo much earth as to make room to ſtay it; then cover it again very neatly with the turf you cut out; and as the joint of the turf will not cloſe exactly, get ſome mould of a new caſt up mole-hill, and put it cloſe round the turf, ſticking ſome graſs in it as if it there grew; make it curious and neat, that it might even deceive yourſelf; ten or twelve yards from the trap, three ſeveral ways, ſcatter ſome of the mole hill mould very thin on a place 15 or 16 inches ſquare, then on theſe places, and where the trap is ſet, lay three or four ſmall bits of cheeſe, and with a ſheeps paunch draw a trail a mile or two long to each of theſe three places, and from thence to the trap, that the fox may come to one of theſe places firſt, for then he'll approach the trap more boldly; and thus you will never fail of him; be ſure let your trap be ſet looſe that he may draw it to ſome hedge or covert, or he'll bite off his leg and be gone.

A Spring-Trap for a Fox or Badger.

Bend down a ſtick in the wood, or ſet a pole in the ground where he uſes to come, much like that ſet up for a woodcock, which hangs them up. To explain it better, tie a ſtring to ſome pole ſet faſt in the ground, and to this ſtring make faſt a ſmall ſhort ſtick, made thin on the upper ſide, with a notch at the lower end of it; then ſet another ſtick faſt in the ground, with a notch under it;

then

then bend down the pole, and let both the nicks or notches join as ſlightly as may be: then open the noſe of the ſtring, and place it in the path or walk; and if you lay pieces of cheeſe, fleſh, or ſuch things, it will entice him that way.

To ſhoot a Fox.

Anoint the ſoals of your ſhoes with ſwine's fat a little broiled, and coming from the wood, drop here and there a piece of roaſted ſwine's liver dipt in honey, drawing after you a dead cat, and he'll follow you, ſo that you may ſhoot him.

A Hook to catch a Fox, ty'd to a tree or Gibbet.

This hook is made of large wire, and turns on a ſwivel, like the collar of a greyhound: it is frequently uſed in catching wolves, but oftener for the fox. They hang it from the ground ſo high that he muſt leap to catch it; and bait it with fleſh, liver, cheeſe, &c. and if you run a trail with a ſheep's paunch, as before directed, it will draw him the more eaſily to the bait.

To catch an Otter.

Otters are great deſtroyers of fiſh, and will travel in a night ten or twelve miles; they lie under the roots of trees near the water; ſome catch them with ſnares, other with ſpears, and ſome with hunting dogs.

CHAP. VIII.

Different Methods of catching Fiſh. To make Bird-Lime. To catch Birds. To keep Pigeons from quitting the Pigeon Houſe. To preſerve Fruit from Birds.

To catch Fiſh.

YOUR baits muſt ſmell well, ſuch are anniſeeds, juice of panacea and cummin: 2dly, taſte well, as hog's blood and wheat bread; 3dly, by intoxicating, as aqua vitæ,

vitæ, lees of wine, &c. and laſtly, make them ſenſeleſs, as yellow flowers, and lime clithimal, nux vomica, and nothing better than Coculus Indiæ

To catch Eels.

Take ſea-ſtoneworth an ounce, ſea onions one ounce, mix them together and throw where eels come.

To catch Pikes.

Take what quantity of blown bladders you will, and tie a line to the mouth of them, longer or ſhorter, as the water is in depth; bait your hook artificially, and the pike will take it, and make you ſport; the ſame may be done by tying your line to the leg of a duck or gooſe.

Fiſh to bring together.

Boil barley in water till it burſt, with liquorice, a little mummy and honey, then beat them together to a paſte, and throw little pellets, when it is almoſt dry, where fiſh are, and it will bring them together. Or, freſh-horſe dung thrown into the water does it.

To catch a Pike as he lies ſleeping and ſunning in fair Weather, with a Loop or Net.

March and Auguſt is the beſt time. Get a long pole rod that is light and ſtreight, on the ſmall end faſten a running loop of twiſted horſe hair and ſilk, or made of wire of a large compaſs, which gently draw on him, and when it is five on ſix inches over his gills hoiſt him up; if it is a ſmall pike draw it not ſo far on; make no noiſe in walking or ſpeaking; if he lies ſo that you cannot conveniently nooſe him, touch his tail with the rod, and he will turn as you pleaſe; alſo with a hand-net, putting it gently under the water, guide it juſt under him, and liſt it ſoftly till you touch him, and then do it as quick as you can.

Fiſh. Garlick and mutton ſuet mixed with red wine, and made into paſte: caſt it into the water an hour before you fiſh.

To catch Fiſh.

Take Coculus Indiæ, and ſome wheat flower, and with ſweet wine, milk or mead, make a ſtiff paſte, then make pellets, and throw them where fiſh are, and you

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get them with your hands. Or, take aſſa-fætida, flour, milk and honey, made into a paſte, and bait your hook with it.

Fiſh to Fox.

Take hartworth and unſlacked lime beat ſmall, throw it into the water when calm, and it will make them drunk, ſo that you may get them with your hands.

Fiſh. Take elder leaves, ſavory and thyme, of each a little quantity; then get ox or ſheep's ſuet, and lees of wine; beat them in a mortar, and throw little pieces into the water an hour before you fiſh.

Fiſh. Take Coculus Indiæ, old cheeſe, cummin-ſeed, and wheat-flour, make a paſte with brandy, and throw pieces in as big as a pea, and they that eat it you may catch.

To catch Fiſh with your Hands.

Get nettles and cinquefoil, ſtamp them together with houſeleek juice; then take them in your hand and ſtir in the water and the fiſh will come to you. Or take Coculus Indiæ, ſoft cheeſe, honey and crumbs of white bread, made into a paſte, and throw it into the water.

Fiſh. Get ſheep's ſuet and garlick, mix it with wheat or barley flour, and with wine make it into a paſte; throw it into the water, and you may catch fiſh with your hands. Some take elder leaves, wild marjoram and thyme, all dried and mix ſheep's blood with them; then dry them in an oven, and throw lumps into the water.

Get unſlacked lime, and mingle it with birthwort beat ſmall, and caſt it into the water, the fiſh will greedily eat it, and turn on their backs, but they are not the worſe for eating. Or, with the juice of draggon-wort anoint your hands, and they will come to it. Or oil of camomile put to your bait, does it.

Get a quarter of an ounce of oriental berries, cummin ſeed and aqua vitæ, each a fixth part of an ounce, cheeſe an ounce, wheat meal three ounces; make little pellets and throw them where the fiſh are.

BIRD-

BIRD-LIME.

The common method is to peel a good quantity of holly bark about mid-ſummer, fill a veſſel with it, put ſpring water to it; boil it till the grey and white bark ariſe from the green, which will require twelve hours boiling; then take it off the fire, drain the water well from it, ſeparate the bark, lay the green bark on the ground in ſome cool cellar, covered with any green rank weeds, ſuch as dock thiſtles, hemlock, &c. to a good thickneſs; let it lie fourteen days, by which time it will be a perfect mucilage; then pound it well in a ſtone mortar till it becomes a tough paſte, and that none of the bark be diſcernable; next after waſh it well in ſome running ſtream, as long as you ſee the leaſt motes in it; then put it into an earthen pot to ferment, ſcum it four or five days as often as any thing riſes, and when no more comes change it into an earthen pipkin, add a third part of capons or gooſe greaſe to it, well clarified, or oil of walnuts, which is better, incorporate them on a gentle fire, and ſtir it continually till it is cold, and thus it is finiſhed.

How to uſe Bird-Lime.

When lime is cold, take your rods and warm them a little over the fire; then take your lime, and wind it about the top of your rods, then draw your rods aſunder one from another and cloſe them again, continually plying and working them together, till by ſmearing one upon another, you have equally beſtowed on each rod a ſufficient proportion of lime.

Of catching ſmall Birds which uſe Hedges and Buſhes, with Lime-twigs.

The great Lime buſh is beſt for this uſe, which you muſt uſe after this manner: Cut down the main branch or bough of any buſhy tree, whoſe branch and twigs are long, thick, ſmooth, and ſtreight, without either pricks or knots, of which the willows or birch trees are beſt; when you have pickt it and trimmed it from all ſuperfluity, making the twigs neat and clean, then take the beſt bird-lime, well mixed and wrought together with gooſe greaſe, or capon's greaſe, which being warmed, lime every twig therewith within four fingers of the bottom.

lie not ſmooth, blow on it with your breath, which will lay it flat and plain, then with a knife of cane, or for want of it, an ordinary pocket knife, that hath a ſmooth and ſharp edge; with this (being wiped very dry on your ſleeve, that the gold ſlick not to it) let your leaf gold be cut into ſuch pieces or forms as your judgment ſhall think moſt ſuitable to your work.

When you have thus cut your gold into convenient forms, then take your gilding pallet, ('tis a flat piece of wood, about three inches long, and an inch broad, upon which is to be glewed a piece of fine woollen cloth of the ſame length and breadth) and breathe upon it to make it dampiſh, that the gold may ſlick to it; with this tool take your gold (by clapping it down on the ſeveral pieces you had before cut into forms) and transfer it to your ſize, upon which clap it down according to diſcretion, and your gold muſt afterwards preſs down ſmooth with a bunch of cotton, or a hare's foot; and this you muſt do piece by piece till you have covered all your ſize gold; and after it is fully dried, then with your hare's foot bruſh off all the looſe gold, ſo will your gilding remain fair and beautiful.

If your work is to be gilt very large, open your book of leaf gold, and lay the leaf down on your work without cutting it into pieces, and ſo do leaf by leaf till you have covered quite over what you intend to gild; and if ſome particular places ſhould miſs there, take up with a ſmall bunch of cotton, a piece of leaf gold, cut to a fit ſize, and clap it on, that the whole may be entirely covered; if the gold be to be laid in the hollows of carved work, you muſt take it up on the point of a camel hair pencil, and convey it in, and with the ſaid pencil dab it down till it lie cloſe and ſmooth.

How to gild with Silver.

In laying on ſilver upon an oily ſize, the ſame method in all reſpects is required as for gilding with gold, ſave only in this, that the ſize, upon which ſilver is laid, ought to be compounded of a very little yellow oaker, and much white lead; for the ſize being of a light colour, the ſilver

laid on it will look more natural, and retain its own colour better the whiter the ſize is.

Note, That the common painters do now generally in gilding, uſe more ſilver than gold, in moſt works that are not much expoſed to the air, to which they afterwards give the colour of gold, by means of the lacker varniſh, whoſe uſe is now ſo common, that if they gild any thing that ſtands free from the weather, they only gild with ſilver, and ſo give it the colour of gold with a lacker varniſh, made of gum lake, diſſolved in ſpirits of wine, and laid over it.

CHAP. XI.

The whole Art and Myſtery of colouring Maps, and other Prints, in water colours; and Directions for laying Metzotinto Prints on Glaſs.

HAVING as yet, ſeen nothing publiſhed upon this ſubject that is authentic, I have thought fit, for the uſe of thoſe who are inclined to ingenuity, to ſet forth the way and manner of doing this work, it being an excellent recreation for the gentry, and others who delight in the knowledge of Maps which by being coloured, and the ſeveral diviſions diſtinguiſhed one from the other by colours of different kinds, do give a better idea of the countries they deſcribe, than they can poſſibly do uncovered.

Now, to perform this work after the beſt manner, there muſt be provided in the firſt place a lye made with tartar, and gum water.

To make the tartar lye do thus: get two ounces of the beſt white tartar, which is a ſtony ſubſtance that ſticks to the ſide of wine veſſels, and is ſold by the druggiſts.

Wrap it up hard and tight in a ſheet of brown cap-paper, wet it thoroughly in water, and put it into a clear fire, either of wood or ſea coal; let it remain therein till it

it be red hot quite through, then take it out with a pair of tongs, and put it immediately into a pint of water, and with your fingers rub it well to pieces; put it into a long narrow glaſs, and in a day or two the black will all ſettle, and the lye will become pure and clear; pour off the lye into a clean glaſs, and keep it cloſe ſtop'd for uſe.

To make a gum water, take three ounces of the whiteſt and cleareſt gum arabick, which is alſo ſold at the druggiſts, and beat it as thin as you can, then put it into a pint of fair ſpring water, and let it diſſolve there, which may be haſtened by ſhaking the glaſs three or four times a day very eaſy, that the gum that is diſſolved may mix the better with water that is above it; when it is diſſolved, if there appear any foulneſs in it, ſtrain it through a rag into a glaſs, and ſtop it for uſe. Note, That too much of this ought not to be made at a time: for if the gum be kept diſſolved too long in the water, it will rot, and be of no uſe; therefore obſerve to make it freſh once in two months, or three at fartheſt.

In the next place, you muſt prepare or make ready your colours for uſe, and the beſt for this work are thoſe that follows: Namely,

Copper green, and that is made thus: get a pound of right French verdigreaſe, made at Montpelier, this being the beſt, for the verdigreaſe made at any other place will fade; to this add three ounces of cream of tartar, beat them into a fine powder, and take care, while the verdigreaſe is pounding, to ſtop your noſe, and hold a bunch of fine linen in your mouth to breathe through, elſe the ſubtle powder of the verdigreaſe may be apt to offend; and when this is done, mix both the powders into two quarts of water, and boil it in an earthen pipkin till it boil away a quart, then ſtrain it out, when cold, and put the liquor into a glaſs, ſtop it up, and let it ſtand to ſettle till the liquor be very clear, ſo you may have a delicate green; but ſometimes the verdigreaſe not being always of a goodneſs, the colour may not be deep enough for ſome uſes. In this caſe, put ſome of it into a broad earthen diſh, and ſet it over a chafing

diſh of coals, and by a gentle heat, diminiſh ſo much of the liquor, till by drying on a paper, and letting of it dry, the colour pleaſe you, and here you are to note, That if it ſhine too much when dry, it is not right; for it is not rightly made except it but juſt ſhine, and if you cannot make the colour deep enough by evaporating by heat the abounding liquid, without making it ſhine too much, it were better to add ſome verdigreaſe, and boil it up anew till it become a tranſparent deep willow green. If you would make but a pint of this, you muſt take but half the quantity of each; and you are alſo to take notice, that this is a colour that will keep many years without decaying, if the glaſs that holds it be cloſe ſtopped up.

The next colour needful to be made, is a ſtone colour, of a liquor of myrrh, which is thus done; take a pint of your tartar lye, and add to it one ounce of the beſt myrrh in powder, which you can get at the druggiſts, and boil it till the myrrh is diſſolved, which will be done in a ſhort time; let it ſettle, and pour off the clear for uſe, which you muſt keep cloſe ſtopped up; this is alſo a tincture that will never decay, and may be made fainter or deeper, by boiling more of the liquor away to make it deeper, or by adding water to make it fainter.

And in the laſt place there is required a crimſon colour, which is ſpeedily made thus: Buy at the druggiſts ſome good cochineal, about half an ounce will go a great way; take thirty or forty grains, bruiſe them in a galley-pot to fine powder, then put to them as many drops of the tartar lye as will juſt wet it, and cauſe it to give forth its colours; and immediately add to it half a ſpoonful of water, or more, if the colour be yet too deep, and you will have a delicate purple liquor or tincture. Then get a bit of allum, and with a knife ſcrape very finely a very little of it into the tincture and this will drive away the purple colour, and cauſe it to be a delicate crimſon; ſtrain it through a fine cloth into a clean galley-pot, and uſe it as ſoon as you can, for this is a colour that always looks moſt noble when ſoon made uſe of, but it will decay if it ſtands long.

Indigo

Indigo is another colour uſed in colouring of maps. This is bought at the colour ſhops that ſell paint, and it muſt be ground very fine on a ſtone, as you do oil colours with a little tartar lye to cauſe it to give its colour, and look the brighter; when it is ground perfectly fine as a thick ſyrup, add gum water to it till it be thin enough for your purpoſe, and keep it in a glaſs cloſe ſtopt up, but it will ſettle ſo, that when you uſe it you muſt ſtir it up from the bottom.

For a yellow, gumboge is the beſt; it is ſold at the druggiſts in lumps, and the way to make it fit for uſe is to make a little hole with a knife in a lump, and put into the hole ſome water, ſtir it well with a pencil till the water be either a faint or a deep yellow as your occaſion requires, then pour it into a galley pot, and temper up more, till you have enough for your purpoſe.

Red lead is alſo a colour much uſed in this work, and ſo is orpiment; both which you may buy at the colour ſhops very finely ground, ſo that they need only to be tempered with gum water to be fit for uſe.

Blue bice is alſo often uſed, which needs only to be tempered with gum water, and when men deſign to be curious, they may uſe inſtead thereof ultrimarine, which is the moſt beſt and glorious of all blues, but vaſtly dear; yet ſmall papers of it about two ſhillings price, may be bought at ſome of the colour ſhops, and if carefully uſed, will go a great way; it need only be tempered in a very ſmall galley-pot with ſome gum water, till it be on the paper with a good colour.

There is alſo an exceeding glorious red or crimſon colour, named carmine, which is exceeding dear, yet about half a crown's worth will go a great way in the uſes to which it is put; it is tempered with gum water, and gives ſeveral degrees of colour according as it is thicker or thinner tempered.

Vermillion is alſo uſed in ſome caſes. This is a glorious ſcarlet, that it needs only to be tempered with gum-water; for it may be bought very finely ground to powder at the colour ſhops; only it is to be noted, that this colour

colour ſhews much brighter when dry, if glazed over with ſome thick gum water, which is made by putting two ounces of gum arabick to half a pint of water or leſs.

And for ſome uſes burnt umber, ground very fine, with water as thick as poſſible, and then tempered with gum-water to a due thickneſs, makes a good tranſparent colour.

There is another colour needful in this work, which is a moſt pleaſant graſs green, and that is made thus; get a lump of gumboge, and make a hole in it, then put therein ſome copper green, ſtir it about with a pencil, and from a willow you will ſee it turn to a graſs green, which will be the deeper or lighter as you ſtir it about a longer or leſſer time.

Of the practice of colouring Maps.

The colours being prepared as before directed, the only way to colour maps well is by a pattern done by ſome good workman, of which the Dutch are eſteemed the beſt; three or four ſuch maps coloured by a good artiſt, are ſufficient to guide a man in the right doing of his work; but if he cannot obtain this, he may by a few trials grow a good artiſt in a ſhort time; for this is only attained by practice, and if a man ſpoil half a ſcore maps in order to get the method of colouring a map well at laſt, there is no man that is ingenuous will grumble at it.

The art of colouring right may be attained by practice, but the hardeſt thing is to know rightly how to prepare the colours properly, without ſuffering them to ſink into it; but if the paper be not good and ſtrong, no art can make the colour lie well; therefore in buying maps, chooſe thoſe that are printed on the thickeſt or ſtrongeſt paper.

Directions how to lay on Metzotinto Prints on Glaſs.

In undertaking this, curiouſly lay the print flat ways in warm water, of the thinneſt and fineſt paper; for that which is rough and thick will not do near ſo well; if at all let them ſoak well, and your glaſs being very white and thin, go over it with Venice turpentine ſpread thin with a pliable knife, and daub it all over with your finger, that the turpentine may ſeem rough.

This

This done, get the ſoaked print, and lay it on a ſmooth cloth, then preſs with another, to get out the water, then lay it on the glaſs, the print next it, beginning at one end, ſtroaking outwards the part already fixed to the glaſs, that neither wind or water may be retained between to wrinkle it, then with a bit of ſponge, or your hand, wet the back ſide, and lightly by degrees take off the paper careſully, without making holes, eſpecially in the lights, which are the tendereſt, and when the print appears very plain on the backſide, let it dry about two hours, then varniſh it over with turpentine or maſtick varniſh till you can ſee through it, and a night's drying will prepare it to be worked with colours.

If you would have the paper off, ſo that nothing but the print may remain, lay it as before with oil of maſtick and turpentine, and a bruſh you may fetch off the colour.

CHAP. XII.

The Art of Varniſhing and Japanning.

TO be a proficient in this art ſeveral matters are required, and theſe you muſt conſider as ſuitable, not only in property but goodneſs, that your coſt and labour may not prove in vain.

As two ſtrainers made of flannel, moderately fine, or of coarſe linen, in the nature of a tunnel, for to ſtrain your lac varniſh, and the other for your white varniſh, and the firſt of theſe may ſerve for lackers, when your occaſion requires you to make them; beſides there are required two tunnels of tin for the ſame purpoſe as before; glaſs bottle and vials ſmall and great muſt be in readineſs, as to ſuit with the quantities of varniſh your buſineſs requires you to uſe, and galley-pots to put it in when you deſign to work; as alſo to mix your blacks in, when they come to be ordered with other things.

As

As for tools they are no leſs requiſite, for without them this art would be inſignificant, and therefore to furniſh yourſelf with them, you muſt have pencils according to the ſize of the things intended to work on; thoſe for the varniſh muſt be made of camel's hair very ſoft, and are of various prices, as to the ſize and fineneſs; likewiſe drawing pencils in duck or gooſe quills, as the fineneſs or ſize of the ſtrokes require, and the longeſt haired pencils are accounted the beſt in this buſineſs; you muſt have in readineſs a conſiderable number of muſcle-ſhells to mix colours and minerals in, as occaſion may require it. Dutch ruſhes are another material uſeful in this matter, to ſmooth the work before it is varniſhed, to get off the nobs of grittineſs from the ground, or when it is varniſhed.

Tripoly is proper to poliſh this work with when varniſhed, being reduced into fine powder, and ſifted; as for linen rags, you muſt be provided with them, both fine and coarſe, to clear and poliſh this work, alſo olive oil for clearing; as many of theſe things ſhall be directed hereafter, as they occur in due place, in the work.

Several Things neceſſary to be uſed in this Art.

Of Spirits of Wine.

This is of main uſe in varniſhing, and if it be not properly qualified it will ſpoil the varniſh, and not be capable, for want of ſtrength, to diſſolve your gums, or make them ſpread and ſo conſequently lie uneven upon the work; and to know when this ſpirit is ſufficiently rectified, put ſome of it in a ſpoon, and put a little gunpowder in, and if it burns out, blows up the gunpowder, and leaves the ſpoon dry, then it is a good ſpirit, but failing in this, and leaving the ſpoon moiſt when the flame extinguiſhes, it is not fit for your uſe.

Of Gum Animæ, Gum Lac, and Gum Sandarack.

To chooſe thoſe well, as for the firſt, get the moſt tranſparent, cleareſt and whiteſt, which is the beſt,

The ſecond alſo, called ſeed lac, chooſe that free from droſs, ſticks, or duſt, large grained and bright.

As for the third, get that which is large, and very white, caſting the leaſt yellow, free from duſt and droſs.

Of Shell Lac, White Roſin, Bole Armoniack, and Venice Turpentine.

As for the firſt, that is beſt that is moſt perſpicuouſly tranſparent, will eaſily melt, and draw out with your fingers as fine as a hair.

As for the ſecond, chuſe for your uſe that which is the whiteſt and cleareſt.

As for the third, that is moſt fit for your purpoſe that is free from grittineſs or gravel, and is of a blackiſh red colour.

Of Gum Elemi, Gum Arabic, and Gum Capel.

As for the firſt, chuſe the hardeſt, and freeſt from dirt and droſs.

Chuſe the ſecond, white and tranſparent.

As for the third, that is beſt for your uſe that is whiteſt, free from droſs, and the thick dark ſtuff incorporated with it.

Of Gambogium, Iſinglaſs, Benjamin, or Benzoin, Dragon's Blood, &c.

There are other things neceſſary in this art, and ought to be choſen.

As for the firſt, the beſt is that of a bright yellow, free from dirty thickneſs and droſs.

Chuſe as to the ſecond that which is whiteſt and cleareſt, free from yellowneſs.

As for the third, the beſt is that of a bright red colour much like to clarified black roſin, free from all droſs and filth.

The fourth, when the beſt, is of a bright red, free from droſs, it may be had at the druggiſts.

Of Silver Duſt, Braſs Duſt, Green Gold, Dirty Gold Coppers, Powder, Tin, &c.

The ſilver duſt, the beſt is brought from beyond the ſeas, and is known from the counterfeit by being ſqueezed between your finger and thumb, giving a glorious luſtre, as indeed it does in the work.

Braſs duſt, by artiſt called gold duſt, the beſt is made in Germany, the beſt is of a fine bright colour, neareſt reſembling gold, try it as the ſilver duſt; as for the coarſe

ſort, though it works pretty well with gold ſize, yet it will not do ſo with gum water.

Green gold is a corrupt metal ſo called, is very good in this work, for caſting a fading green colour.

Dirty gold, is a corrupt metal, caſting a dark, dull, though ſilveriſh colour, bearing near a reſemblance to dirty droſſy gold.

Coppers are three ſorts, natural, adulterate, and artificial; as for the natural, being cleanſed, it may be ground without any mixture.

The adulterate is moſt fit for a ground, and ſerves commonly to lay other metals on, as in etching or eightening gold or ſilver on; but the artificial is of a higher and brighter colour than either: There are alſo uſed in this art, thoſe called ſpeckles of copper, gold and ſilver and divers other colours differing in fineneſs, which may be work'd as the artiſt fancies, either on the outſides of boxes or drawers, or on mouldings, and may be purchaſed ready done.

Of Colours proper in Japanning.

Some of theſe are called tranſparent, on which gold and ſilver are to be laid, or ſome light colour, ſo that by this means they appear in their proper colours, lively and beautiful.

Of theſe, for green, are diſtilled verdigreaſe; for a red, fine lake; for a blue, ſmalt; you have to grind theſe on a porphiry, or marble ſtone. Grind with a muller what quantity you pleaſe, with ſmalt or verdigreaſe; with nut oil, as much as will moiſten the colours and grind them till they are as fine as butter, then put the colours into ſhells, and mix them with oil of turpentine till they become thin, for uſe; lay them on ſilver, gold, or any other light colour, and they will then become tranſparent, altering their lightneſs or darkneſs according to that of the metal or colours that are placed under them; this for a curious red may be done with lake, but then uſe drying oil to grind them with.

If you deſign figures on the back of your tables or boxes, as trees, birds, or flowers, thoſe may be done, for

for white, with white lead; for blue, ſmalt, mixing it with gum arabick water, and mingle them as you pleaſe, to make them lighter or deeper: ſlake white is a very pure white, but the other will do for ordinary uſe; and you muſt uſe either of theſe with ſmalt, or all other colours that have not a body of their own; you may for a purple uſe ruſſet, fine lake, and ſea green, and it may be done with other ſorts of reds, and greens, and except tranſparent colours, all muſt be laid with gum water.

To make Seed Lac Varniſh.

Your ground work is good rectified ſpirits, of which you may take a gallon, put into as wide a necked bottle as you can get, that the gums may the better come out then of the beſt ſeed lac add a pound and a half, let it macerate twenty-four hours, or till the gums are well diſſolved, with often ſhaking to keep them from clogging together; then with flannel ſtrainers ſtrain it into a tin tunnel, placed in the mouth of the empty bottle, the ſtrainer may be made as before directed, and ſqueeze the droſs into the bag, and throw it away as of no uſe; then let the varniſh ſettle, and pour it off into other bottles, till it riſes thick and no longer; then ſtrain the thick part, and ſettle that again, and keep the fine varniſh for your uſe, and this does as well, without the danger of attempting to boil it; which endangers firing the houſe, and the parties life.

To make Shell Lac Varniſh.

This in curious gloſſy pieces of work is not of value, but in varniſhed woods it ſucceeds: To make it, put to a gallon of ſpirits, a pound and a half of the beſt ſhell lac order it as the former, and tho' it has no ſediment, it is proper, however, it ſhould be ſtrained, to take away the ſticks or ſtraws that may be in the gum, nor will it ever be fine and clear as the former, but turns in a few days to cloudineſs, yet it is fit for coarſe work, and much uſed.

To make White Varniſh.

Take an ounce of white gum maſtich, and an ounce of white gum ſandarach, three ounces of the beſt and cleareſt Venice turpentine, gum elemi half an ounce, gum

capal an ounce and a half, gum Benjamin or Benzoin of the cleareſt, half an ounce, and half an ounce of white roſin. and the gums being ſeparated in their quantities provided, put the roſin and capal in a glaſs vial, with half a pint of ſpirits, that they may be diſſolved; and to the ſame end, in a glaſs bottle of three quarts of ſpirits put the Venice turpentine, anima, and Benjamin, and in another bottle the gum maſtich and ſandarach, in a pint and a half of ſpirits, then diſſolve the gum elemi in a quarter of a pint of ſpirits, powder very finely the anima and Benjamin, the better to diſſolve in the ſpirit, and then pour them off into one large bottle, let them ſtand to fine as the former, then ſtrain them thro' a linen cloth gently, not hardly preſſing the ſediment, leſt you carry the griſſineſs of the gums along with you, to injure the varniſh.

General Rules for Varniſhing.

This is a point nicely to be obſerved, or your labour and coſt may be vain.

1. If you chuſe wood that requires to be varniſhed, let it be exempted from knots, very cloſe grained, ſmooth, clean, well ruſhed, and free from greaſineſs.

2. As for your colours and blacks, lay them even, and exquiſitely ſmooth, ſweep all roughneſs off with your bruſh.

3 keep your work ever warm, but not hot, to raiſe bliſters, or crack it, which nothing but ſcraping off the varniſh can amend.

4. After every diſtinct waſh, let your work be thoroughly dry, for neglect in this point introduces the fault of roughneſs.

5 After it is varniſhed, let it lie by and reſt as long as your conveniency will admit, and it will be the better.

6. Ever take care to begin your varniſh ſtrokes in the middle of the table, or what you do it on, and not from one end to the other, and your bruſh being planted in the middle, ſtrike it to one end, then take it off and fix it to the place you begun at, ſo draw or extend it to the other end, and ſo continue it till the whole plain be varniſhed over, and beware you overlap not the edges, which

is when the varniſh hangs in ſplaſhes or drops on them, and therefore to prevent it, draw your bruſh gently once or twice againſt your galley-pot ſide.

7. When you have proceeded ſo far as to come to poliſh, let your tripoly be very fine, and the finer the work, and uſe fine rags, keeping your hand moderately hard upon it, and brighten or poliſh one place as much as you intend e'er you leave it and paſs to another, and always have regard, that you poliſh your work as ſmooth as you intend at one time, but if your conveniency will admit, let it reſt two or three days before you give the finiſhing ſtrokes after you have poliſhed it, but come not too near the wood, to make it thin and hungry, for then it will require another varniſh, or remain to your diſcredit.

8. Take a ſufficient quantity of tripoly at the firſt poliſhing, till it begins to come ſmooth, and ſo leſſen by degrees, and obſerve there be no ſcratches or gratings in it.

9. When you have a mind to clear up the work, waſh off the tripoly with a ſpunge, and ſoak up the wet with a fair linen cloth, and with lamp black mixed with oil, gently ſmear the whole face of it, let no corner or moulding of it eſcape, that the whole place may be freed, then with other linen, and a hard hand cleanſe it off that, and theſe things done, there will be an admirable gloſs.

Of Black Varniſhing or Japan.

Provide for this imitation of japan, a cloſe grained wood, well wrought off, ruſh it ſmooth and keep it warm by a fire, but never ſo near as to burn, ſcorch or bliſter your work, then add to ſeed lac varniſh, as much lamp black as will at the firſt ſtrokes colour the wood: do it three times permitting it to dry between every doing and ruſh it, then with a quarter of a pint of the thickeſt ſeed-lac, mix with an ounce of Venice turpentine, put in more lamp black ſo much as may colour it, and with this waſh it ſix times, letting it ſtand twelve hours between the three firſt and three laſt waſhings; then with the fineſt ſeed-lac, juſt tinctured with the black, do it over twelve times, letting it dry between every time doing, after which

let

let it remain five or ſix days before you poliſh it.——For white let your poliſhing be gentle and eaſy, do it nimbly, and clear it with oil and fine flour, and in obſerving theſe rules you may prove an artiſt.

At the end of that time, take water and tripoly, and poliſh it, having firſt dipped your cloth in water, and rub it till it gains a very fine ſmoothneſs and gloſs, but do not rub ſo as it may any ways wear off the varniſh, which cannot be eaſily repaired, then uſe a rag wetted without tripoly, and clear it up with oil and lamp black, yet poliſh it not all at once, but let it have ſome days reſpite between the firſt and laſt poliſhing, and at leaſt three or four days.

White Varniſhing and Japan.

This muſt be curiouſly done without any ſoiling, and therefore you muſt be cautious of letting any dirty thing come near, whilſt you are doing it.

To begin this work, ſcrape as much iſinglaſs as will make it of a reaſonable thickneſs, or when dipping your pencil into it, it will with a ſtroke whiten the body which has been paſſed over with a bruſh, but let it be in neither of the extremes, two thick or too thin, then mix it with your ſize, whiten your work over with it, and when dry, repeat the ſame, covering it from all manner of duſt before it is varniſhed; it muſt be whited three times, and dried between every one of them, ſmooth and lay it as cloſe as you can to the wood with your ruſhes; then mix white ſlake with your ſize, only ſo that it may lie with a full and fair body on the piece, and whiten your work three ſeveral times with this, drying between each, then make it with your ruſhes very ſmooth, but keep your diſtance from the wood.

In the next place, take white ſtarch boiled in fair water till it come to be ſomewhat thick, and when it is lukewarm, waſh over your work with it once or twice, drying between times, and let them ſtand twenty four hours then get the fineſt of the white varniſh I have directed you to make, waſh your pencil in ſpirits, and waſh or anoint your work ſix or ſeven times, and after thirty or forty hours do the ſame again, and if done with a dexterous hand,

hand, a better gloſs will be ſet on it than if it had been poliſhed; but if it miſs of that gloſs, it is requiſite that you poliſh it; and in order thereto, you muſt accommodate it with five or ſix waſhes of varniſh more than the former, and it muſt continue to ſettle well about a week before you poliſh it.

In poliſhing, your linen and tripoly muſt be of the fineſt, being neat and careful in all this operation, your hand carried light and gentle, having your cloth neither too dry nor too wet, and clear it up with fine flour and oil.

To make Iſinglaſs Size.

Break and divide an ounce of iſinglaſs into little pieces, put it into a glazed, clean, and well covered pipkin, and let it for twelve hours ſoak in a pint and a half of fair water, then place it over a gentle fire, till it boil well at leiſure, and when the water is conſumed to a pint, let it ſtand to cool leiſurely, and then it will be a jelly, and may be uſed in the white varniſh, and other works, but prepare no more at a time than you will uſe, for in two or three days it will prove naught.

To make Red Japan.

The reds are properly three, viz. the common red, the deep dark red, and the light pale red.

In the firſt, vermillion is proper, mixed with the thickeſt of ſeed lac, warm the work and mix your vermillion with the varniſh in a medium, carry it over in four times permitting it to dry as the former; and if your reds be in a good body and full, ruſh it ſmooth, then with the ordinary ſeed lac varniſh, waſh eight times, and after twelve hours ruſh it again, and then for a curious outward covering, give it eight or ten waſhes with ſeed lac varniſh, and after five days poliſh it, and clear it with lamp-black and oil.

Of the Dark Red.

The common red laid as before directed, deepen it with dragon's blood mixed with your varniſh, and when it has a pretty good colour go over it with lac varniſh which will much deepen and ſtrengthen the colour, and in all things elſe, as to poliſhing and clearing, do as in the former red.

Of the Pale Red.

To do this, grind white lead with a muller on a ſtone, and when it is finely done, mix it with ſo much vermillion as will make it a pale red, mix varniſh with them, and give the work four waſhes, and follow the preſcription of the common red, conſidering well that the after varniſh will heighten the colour.

An Olive coloured Japan.

Take Engliſh pink colour, grind it with common ſize, and when it is like pap, mix with it a proportion of lamp-black, and white-lead, and uſe it as in other japanning.

Blue Japan.

To do this, grind white lead very fine, add ſmalt as finely ground, mix them with iſinglaſs ſize, the white lead grind with gum water, let there be a proportion of white and blue, and mix them to the thickneſs of common paint, go over your work with it, and when it is well dried, proceed ſo four or five times, till the blue lies with a fair body, bruſh it ſmooth, and go over it again with a ſtronger blue, and when dry waſh it with the cleareſt iſinglaſs ſize, having a new pencil for that purpoſe, then when it is dry warm it by the fire, and go over it with a pencil dipped in white wine varniſh ſeven or eight times, and ſo let it continue for a day or two, then waſh it as often as before, and ſo continue many operations at intermitted times, for a week at leaſt muſt paſs before you can well venture to poliſh it, and when it is poliſhed, clear it with oil and lamp black.

Note, That in no wiſe you mix your colours with iſinglaſs colours too ſtrong, leſt when dried they be apt to crack, fly, and ſpoil the piece; but when you lay your waſh of clear iſinglaſs, to prevent your varniſh from tarniſhing or ſoaking into your colours, then it is proper that it be of a full and ſtrong body.

And thus much may very well ſuffice the learner, to give him an inſight into this excellent art, from whence I ſhall proceed to other things uſeful and profitable.

CHAP.

CHAP. XIII.

Of GILDING with WATER-SIZE.

TO prepare this work, you muſt be furniſhed with parchment ſize, that is, the cuttings of parchment, boiled in fair water to a jelly, and when ſtrained and cooled, it will prove a ſtrong ſize.

When you are to uſe it, put as much as you may want into an earthen pot, and make it hot, then as it is cooling, ſcrape as much fine whiting into it as will colour it, mix them well with a clean bruſh, and with this mixture white your wood or frame, ſtriking or jobbing your bruſh againſt it, that it may the better enter into the carved work, then give it reſt, that it may dry.

This done, melt the ſize again, and put in more whitting, to render it ſome degrees thicker, and with this do over the frames ſeven or eight times, or as you ſee there is a neceſſity, and when it is dry open it with a gouge no bigger than a wheat ſtraw, the veins in the carved work that the whiting has ſtopped up, then with a fine wet rag and your finger carefully ſmooth and water, plain it over and ruſh it ſmooth when dry, if neceſſary requires it; and in this condition it will receive your gold or ſilver ſize. But before I proceed I ſhall teach you to prepare theſe ſizes.

The beſt Gold Size, at preſent in Uſe.

Take an equal quantity of the beſt French and Engliſh bole armoniac, grind theſe fine on a marble ſtone with fair water, then ſcrape into it a little candle greaſe, incorporate and grind all theſe together, then mix a little quantity of parchment ſize with a double proportion of water, and the buſineſs is done.

The beſt Silver Size in uſe.

Grind tobacco pipe clay very fine, mix with it as much lamp-black as will turn it of a light aſh colour, and to theſe add bits of candle greaſe, grind them very fine together, a mixture of ſize and water, and try theſe on the corner of the frame; if it be rough in burniſhing put

more oil or greaſe, and as near as you can bring it to a due temper, that it may uſe well.

To Size your Frames, or other Matters.

To do this prepare the ſize blood warm, and with a fine bruſh ſtir it very well, till it is ſomewhat thin, go over the frames twice or thrice, yet touch not the hollow parts of the deepeſt carvings, where the gold cannot conveniently be laid, for the yellow colour nearly reſembling firſt laid on, the fault may not ſoon be diſcovered; let it dry four or five hours, and then try the gold if it will burniſh on it, if not, alter the ſize, and do it over again.

To lay on Gold in order to burniſhing.

Let your frame, or other matter intended to be, ſet on an eazle, place the leaf gold on a cuſhion, to be held in your left hand with the pallet and pencil. You muſt for this work have a ſwan's quill pencil, or a larger of camel's hair, if the work require it, dip it in water, and wet no more of your frame at a time than will take three or four leaves, make your beginning at the lower end, and ſo proceed upwards, laying on whole leaves or half ones, as it requires; then wet ſuch another part of your work, and lay on the gold with your pencil, or cotton, gently preſſing it very cloſe; and having gilded the upright ſides, turn the frame, and proceed the ſame way with the ends, then ſurvey the ſpots and places that are omitted, with a ſmaller pencil then before; when it is ſo wetted, with a ſmaller pencil than before; when it is ſo finiſhed let it ſtand till the next day that time you leave off.

To burniſh the Gold Work.

Take a wolf or dog's tooth, if you cannot get pebbles formed in the ſame ſhapes, and burniſh ſo much of the work as you deſign, leaving the ground of the carving untouch'd, and ſome other parts, as you ſee beſt convenient, which, in reſpect of burniſhing, being rough, the better ſets it off; that which is omitted to be burniſhed muſt be matted, or ſecured with ſeed lac varniſh, or lacker; if you deſign it a deeper colour, then muſt your work be repoſſeſt, or ſet off with lacker, mixed with ſaffron and dragon's blood, or the colour called ornator, and

with

with a fine pencil dipped therein touch the hollowneſs of the carving, and the veins of the foldages or leaves; if you fancy it is not deep enough, you may by a reputation cauſe it to be ſo, and it is done.

To lay on Silver Size.

Warm the ſilver ſize that is newly ground and mingled with weak ſize, do it once or twice, and let it dry, and try the leaf ſilver, if it will burniſh on it, it is prepared for uſe, but if it will not, make an alteration in the ſize, and for the reſt lay on the leaf ſilver, and do as you did by the gold, and it will anſwer.

Note, as farther rules, and obſerve them.

1. Let your parchment ſize be ſomewhat ſtrong, keep it not long, leſt it ſpoils.

2. Grind no more ſilver or gold ſize than juſt you have occaſion for.

3. Ever keep your work clean from duſt, after it is ſized and gilded, or elſe in burniſhing it will be full of ſcratches.

4. Do not whiten or burniſh gold ſize in hard froſty weather, for then the whiting will be apt to peel off, and the gold ſlaw.

CHAP. XIV.

To DYE or STAIN Wood, Ivory, Bone, or Horn, different colours.

To dye Wood a curious Red.

THE wood that takes this colour muſt be very white, and to begin it put a handful of allum in a moderate kettle of water, and caſt your wood in it, and when well ſoaked, take it out, and put two handfuls of raſped braſil wood, and when that has boiled well, put the wood in again for a quarter of an hour boiling, and it will take the colour.

To ſtain a curious Yellow.

In this caſe, get the knotty aſh or bur, that is very white, knotty and curled, ſmooth and ruſh it very well,

and when it is well warmed, wash it over with a brush dipped in aquafortis, then hold it to the fire till it desists to smoak. Rush it again when dry, then polish it, and varnish it with seed lac, and it will be of a curious colour, not inferior to any outlandish yellow wood; and if you put filings or bits of metal as copper, brass, &c, each metal will produce a different tincture.

To Stain or Dye Wood Black.

Boil logwood in water or vinegar, and two or three times brush or stain your wood with it when very hot; then get nut galls and copperas, bruise them well, and boil them in water, and with it wash or stain your wood so often, till it be a perfect black; or rather steep it in the hot liquor, if you can put it in, and the dye will penetrate the better.

To Dye or Stain Wood for inlaying of Flowers, or other Things in Cabinets.

Get moist new horse dung, and squeese out the moisture through a cloth, put it into several small vessels, fit for your purpose and dissolve gum arabick and rock allum, each the quantity of a walnut, and with these mix reds, greens, blues, or any other colour that is suitable to the work, stir them often three or four days, then get your wood, particularly pear tree for white, cut it into the thickness of half crowns, or so much as will suffice any inlaid work, and in a square or length, according to your desire, boil up the liquor or colours very hot, and put in the wood till the colour is well taken; some indeed take out sooner, that the colour being less strong, may agree with your party coloured flowers, shading, &c.

To Dye or Stain Ivory, Bone, or Horn, Red.

Soak some lime about twelve hours in fair rain water, then pour off the water well from the setling through a linen cloth, and to each pint put half an ounce of rasped brazil wood, and having boiled your materials in allum water, boil it in this, and it will give a curious tincture.

To Stain Horn, Bone, Wood, or Ivory, Green.

Prepare your materials by first boiling in allum water, then grind the common thick verdigrease, or Spanish green,

green, a moderate quantity, adding half as much ſal armoniac, and put them into the ſharpeſt wine vinegar, as alſo the materials you intend to ſtain, and let them ſtay there till they have a good tincture.

To Stain or Dye Horn, Box, or Ivory, a curious Black.

To do this, put ſmall pieces of Brazil wood into aqua-fortis, and ſo continue them till they appear green; then waſh well your materials in them, and boil logwood in water, into which put them whilſt they are warm, and in a little time the ivory, &c will be of a curious black, ſo that being poliſhed, it will appear like ebony or japan; and if you would have any part for flowers or the like, remain white, draw them before ſtaining with turpentine varniſh, and the black will not touch them, and clear up with oil and lamp-black.

CHAP. XV.

Of Staining PAPER, PARCHMENT, and LEATHER, various Colours.

Of Staining Paper, or Parchment, Yellow.

PAPER may be ſtained yellow by the tincture of French berries; but a much more beautiful colour may be obtained by uſing the tincture of turmeric, formed by infuſing an ounce or more in the root of it, powdered in a pint of ſpirit of wine. This may be made to give any teint of yellow, from the lighteſt ſtraw, to the full colour called French yellow: and will be equal in brightneſs even to the beſt dyed ſilks. If yellow be wanted of a warmer or redder caſt, annato, or dragon's blood, muſt be added to the tincture.

The beſt manner of uſing theſe, and the following tincture is to ſpread them even on the paper, or parchment, by means of a broad bruſh in the manner of varniſhing.

Of ſtaining Paper or Parchment Red.

Paper or Parchment may be ſtained red, by treating it in the ſame manner as is directed for wood, or by red ink.

It

It may alſo be ſtained of a ſcarlet hue by the tincture of dragon's blood, in ſpirit of wine; but this will not be bright.

A very fine crimſon ſtain may be given to paper, by a tincture of the Indian lake: which may be made by infuſing the lake ſome days in ſpirit of wine; and then pouring off the tincture from the dregs.

Of ſtaining Paper or Parchment Green.

Paper or Parchment, may be ſtained green, by the ſolution of verdigreaſe in vinegar; or by the chriſtals of verdigreaſe diſſolved in water. As alſo by the ſolution of copper in aquafortis, made by adding filing of copper gradually to the aquafortis till no ebulition enſues; or ſpirit of ſalt may be uſed in the place of the aquafortis.

Of ſtaining Paper, or Parchment, Orange.

Stain the paper or Parchment, firſt of a full yellow, by means of the tincture of termeric, as before directed. Then bruſh it over with a ſolution of fixt alkoline ſalt, made by diſſolving half an ounce of pearl aſhes, or ſalts of tartar, in a quart of water, and filtering the ſolution.

Of ſtaining Paper or Parchment, Purple.

Paper or Parchment, may be ſtained purple by archal; or by the tincture of logwood, according to the method above directed for ſtaining wood. The juice of ripe privet berries expreſſed will likewiſe give a purple dye to paper or parchment.

To put a curious Black on Leather.

Take two pounds of the inward bark of an old elder, the ſame quantity of the ruſh or filings of iron, put theſe into two gallons of rain water, and cloſe them tight up in a veſſel, and when they have ſtood about ſix weeks, put in a pound of nut-galls bruiſed, a quarter of a pound of copperas, let them ſimmer a conſiderable time over a fire, and after twenty-four hours ſtanding, and often ſtirring, pour out the liquid part, and go over your leather with it warm, and it produces a curious German black.

For a Velvet Crimſon.

Diſſolve cake-ſoap in fair water and bole armoniac, each

each three ounces, place it over a gentle fire till the liquor grows clammy; then put in a handful of grains of cochineal, two onuces of red lead, an ounce of lake, a quarter of an ounce of vermillion, and a little piece of indigo, beat theſe over a gentle fire till they are thick as the glair of an egg; then go over the ſkin with a ſoft bruſh dipt in it, till the colour ariſes to your mind.

To imitate Turkey Blue.

Take two ounces of ſmalt, a quarter of a pint of red wine, half a pint of vinegar, an ounce of white ſtarch; incorperate theſe over a fire till they become a moderate thickneſs, then ſteep the ſkin in allum-water, add to the compoſition a pint of water wherein gum arabick has been diſſolved, and ſtir it well; go over the ſkins three times, dryiſig them betwixt times, ſo when well dryed, poliſh them over, to make them gloſſy.

CHAP. XVI.

Miſcellaneous Curioſities; being rare Secrets, known but to few, and highly profitable.

To make Shell-gold.

TAKE the paring of leaf gold, or even the leaves themſelves, and reduce them into an impalpable powder, by grinding them on a marble with honey; after leaving it ſometime to infuſe in aqua fortis, put it in ſhells, where it will ſtick and dry; when you want to uſe it, delute with gum water.

N. B. Sheſl Silver is made the ſame way.

To cement broken Glaſs, a curious way.

Take glair of eggs mixed with quick lime, burnt flint, (i. e. flint calcinded to powder) and egg ſhells; with theſe and gum ſandarach prepare a glue or cement, and anoint the broken edges of the glaſs with it warm, as thin as may be; place the other pieces right and even on it, and ſet it to cool, ſo let it lie in water an hour; get off the ſuperfluous glue, and the glaſs will be as ever, and the cracks not be diſcerned, but with great difficulty, by a very clear light,

To ſoften or diſſolve horn or tortoiſe.

Make a lye of the aſhes of burnt bean pods, ſtrong vinegar, quick lime and tartar; put in the horn in thin pieces, and in four or five hours the horn will turn to a jelly, or be ſo ſoft that you may work it into what form you pleaſe. The ſame may be done with tortoiſe ſhell, but it will not jelly; however it will be ſo ſoft that it may in a manner be moulded like wax, and very pliable to make boxes or watch-caſes, and other things.

To ſoften Ivory a curious way.

Boil a good handful of ſage leaves in thrice diſtilled vinegar, put in a little quick-lime, and boil the ivory in it, and then it grows ſoft and tough, and not break but with great difficulty, when it is worked in the fineſt comb-teeth, or other fine works.

To get Spots out of Linen.

Take two ſpoonfuls of the juice of an onion, and as much lime-juice, wet it two or three times, as often drying it by a fire, waſh it immediately in a good laver, and it is done.

To get ſpots or ſtains out of ſilks.

Take an ounce of flax ſeed, bruiſe it well in two or three ſpoonfuls of the juice of lemon; add a quarter of an ounce of white lead, and as much burnt bone, mix them over a gentle fire to a thickneſs, lay them on the ſtrainer.

A good lye to get out Spots or Stains.

Put half a pound of ſoap boiler's aſhes into two pints of water; let them remain three days, with often ſtirring; then pour off the clear lye and mix it with fuller's earth; then lay it thick on the place, drying it in the ſun, or by a fire, and in two or three times doing, it will anſwer your expectation.

To get ſpots or ſtains out of coloured Silks, Stuffs, Woollen, or Linen.

Take pumice ſtone and grind it to powder, put to it ſharp vinegar and fuller's earth; let it lie on dry, then waſh it with milk and flower of almonds.

A method to get out pitch, tar, or roſin.

Dab on this oil of turpentine, let that dry and put on more

more and the third time when it is dried you may rub out the pitch, &c. for it will crumble the ſame as dirt.

To get out oil or greaſe.

Mix burnt bone and fuller's earth with a little white wine, and lay it on the ſpot, then dry it in the ſun, or by the fire, and it will ſoak out all the greaſe in once or twice doing.

To get mildew out of linen.

Take ſoap and rub it very well; then ſcrape ſome fine chalk, and rub that alſo in the linen: lay it on the grass; as it dries, wet it a little; it will come out at twice doing.

To get iron mould out of linen.

Bruiſe ſome ſorrel well in a mortar; put boiling water in a bowl; lay a pewter plate over it: put your linen to the plate, and rub the ſpot with the ſorrel till it comes out; then waſh it.

To ſtain Skins Green.

Bruiſe a good quantity of the leaves of nightſhade very well, diſſolve in the juice well ſtrained out about two ounces of allum, then put in half an ounce of verdigreaſe, ſuffer them to ſtand over a gentle fire twenty four hours, when warm, dip in a bruſh, and ſtrike over your ſkins; let it dry and repeat it till it has taken a pleaſant green.

An improved way to colour white leather.

Theſe ſkins muſt be hung in chalk or lime water, that the wool or hair may be entirely ſtripped off, and they become ſupple, ſtretch them ſmooth on tenters, bruſh them over with allum water very warm, and ſo tincture them with the colours you deſign, ſuitable to your purpoſe.

To colour Leather a bright Red.

Dip your leather firſt in allum water, and rub it well therein; then take ſtale urine, boil it till it is half conſumed, ſcum it well, and put to it an ounce of the beſt lake, raſped brazil two ounces, and an ounce of allum; add to theſe half an ounce of ſal armoniac, ſtir them well over a moderate fire two hours, pour off the liquid part, and bruſh over your ſkins with it, till it takes a good tincture, remember ever to let the ſkins in all colours dry well

between each going over with your brush, and your expectation will be answered to a very considerable advantage.

A curious French Yellow for Skins.

Take wood ashes and chalk, of each a like quantity, and when you have made a good lye with rain water, strain out the finest part, and set it over the fire, then put in a sufficient quantity of turmerick, well bruised or beaten to powder, and as much saffron as may give a lively tincture, let it stand over a moderate fire, but not boil, till it becomes pretty thick, and being warm, colour the skins with it.

For a deep Blue or Purple.

Strain out the juice of the elder berries, put to two quarts, an ounce of allum, half an ounce of smalt or indico, set these over a gentle fire, and when warm, brush your leather over with this composition.

For a Light Green.

Take the juice of the herb called horse tail, add to it a little allum, verdigrease and copperas.

To cover or dress Skins with Gold or Silver.

Grind brown red with a muller on a marble stone, add to it a little water wherein chalk has been dissolved, and lightly go over the skins till they look whitish, and before they are dry, lay on the leaf gold or silver a little lapt one over another, that no space be found wanting: when they stick well to the leather and are dry, polish them over with smooth ivory, or a horse tooth, and it will give a very glorious lustre. The silver you may go over with lacker varnish, and change into a gold colour.

Or another way, take glair of eggs or gum water, brush the skins over with it, so lay on your leaf gold or silver, doing as before.

To make Skins shine with Silver or Gold.

Take gum water, the glair of eggs, and the powder of antimony; grind and mix them well together, (the skins being dry) lay it on with a brush three or four times, letting them dry between every time; then burnish them over, and they will have a curious gloss like silver, which tinctured

ed with lacquer varniſh, will produce a fading gold co. lour.

To dye Briſtles a red Colour.

Take half an ounce of allum, a quarter of an ounce of vermillion, and an ounce of raſpt brazil wood; put theſe into a pint of vinegar; ſo boil them moderately thick, and dip in the briſtles, when it is very hot; which continuing ſome, it will be a fine red. You may make larger quantities of the liquor with ingredients proportionable, and thus dye feathers

Feathers, or Briſtles, Green.

Take verditer and verdigreaſe each an ounce, put them into a pint of water, ſoak the feathers or briſtles in hot water, and put them into this liquor boiling hot, and there remain until they have taken a good colour. According to the complexion of your dye, you may make them this way and colour.

For blue, let your dye be indico and bice.

For black, galls and logwood, with a little copperas.

For purple, lake and indico.

For carnation, ſmalt and vermillion.

For yellow, yellow berries and ſaffron, diſſolve a little tartar in your water.

For orange, turmerick and red lead; and ſo of any other colours you fancy.

Of dying Silks, Stuffs, Cloths, Thread, and other Things of diverſe curious Colours.

Take a pound of green weed, and as much allum, bruiſe them, then pour on them fair water, and half a pound of raſped brazil; ſet them over a gentle fire, to mix them, then put in the ſilk, ſuffering it to ſeeth therein, and ſo continue it, ſtrengthening your dye, and dipping till you perceive the colour has taken well; after that rince it in lye of wood aſhes or oak bark, and ſo clear it with fair water, then dry and preſs it.

To dye Silk a deeper Carnation.

Take white gall and allum, the herb called foli, well

dried, the quantity of a pound, two ounces of Spaniſh red, four of Indian lake; boil them in fair water over a gentle fire, when they come to the height of tincture, dip your ſilks in them, and let them have good dippings three or four times, and the colours will take.

To dye Silk Quoins Red.

Let theſe be ſteeped well in allum water, then give them a gentle heat, adding in the heating bran water, a pound and a half of green weed, ſo beat it up and put the ſilk into it, but let it not ſeeth, they rince it in lye of wood aſhes, after that in water, then put in your logwood raſped or in powder, and ſo beat it up a ſecond time; ſo in thrice dipping the buſineſs will be accompliſhed.

To dye a curious Yellow.

Take woad, the ſtalks, ſeeds and leaves, and lay them to ſoak in wood aſhes lays, three hours, then ſeeth it till it is ſufficiently ſodden, and put it into a mixture of hot water and urine, ſo beat it up and ſtrain the liquid part thro' a ſieve or ſtrainer, adding verdigreaſe and ſo boil it up with the lye already ſod, ſtirring and well mixing the liquor about three hours, and when it is very hot, dip three times.

To dye Silk a Roſe red.

Take to every four yards and a half you intend to dye, a pound and a half of nut-galls, boil them in fair water unbruiſed two hours, ſhift the water, then put in the ſilk or linen, letting it ſoak four hours, then wring it dry, and heat it in fair water, wherein allum has been diſſolved, then put in half a pound of brazil powder, and a pound of green weed, and ſo by dipping in gentle heats the colour will heighten.

A good black water for Silk or Cloth.

Take an ounce of lamp black, half a pound of nut-galls, bruiſe the latter, and put them into a bottle of water, with a handful of the filings or ruſt of iron, beat them up, adding a quarter of a pound of copperas, ſeeth it to a quarter of a pound conſumption, then add half a pint of

gum,

gum water, and it will not only be for preſent uſe, but keep long, and be a very good black.

To dye Purple.

In this caſe if you dye ſilk, you muſt take to each pound of it an ounce of allum, and a gallon of water, diſſolving the allum therein over a gentle fire, then put in the ſilk, and let it continue there about four hours, then take lake and indico, each a quarter of a pound, a quart of urine, then add a little handful of cochineal, beat them up into a dye, and dip your ſilks or fine ſtuffs into it as uſual.

To dye a very fair Blue.

Take any ſilk, ſtuff, or white cloth, and ſoak it in water, that done, wring out the water very well, and add two pounds of woad, a pound of indico, and three ounces of allum, give a gentle heat in fair water, and ſo dip till you perceive the colour to take.

Carnation.

To make this a curious right colour, take dried purper, ſoak it in man's urine for a night, then take what you have to dye, and ſoak in allum water twice, ſeeth the purper in fair water, and then ſet another veſſel to receive the liquor and dip therein.

For a pleaſant light Red.

Boil two gallons of wheat, and an ounce of allum in four gallons of water, ſtrain it through a fine ſieve, diſſolve more allum half a pound, and as much of white tartar; add three pounds of madder, to perfect the colour, and put in your ſtuff, cloth, &c. at a moderate heat.

Black, for Velvet, &c.

Take half a pound of copperas, a gallon of ſmith's water, two pounds of galls, burnt ivory, oak bark, and ſhoemaker's black, each an ounce, well ground, two gallons of fair water, mix them well, and ſet them in the ſun or other warm place a month, often ſtir it, and at a moderate warmth dip your velvet, or other things deſigned for deep blacks.

To make Red Water for Silks or Woollen Violets, Green, Azure, or Yellow.

Take two gallons of fair water, four ounces of brazil, and

and being half conſumed in heating, remove it from the fire; then put in an ounce of grains, a quarter of an ounce of gum arabic, with a quarter of a pound of allum well bruiſed, and having ſtood all night, it may be uſed in the morning.

To dye Woollen, Yarn, or Wool.

Take two pounds of Wool to every 4 pounds of yarn, &c. and two gallons of water; put in two handfuls of wood aſhes, and when it ſeeths put in the yarn or wool, and let it continue half an hour or more; then wring it and put it in again, and let it ſeeth as long as before, and if it were a brown blue, it will be a dark green, of a white yellow colour.

To make Bran-water.

This is very neceſſary in dying, and therefore you ought to know how to prepare it. Do it with half a peck of wheat bran to two gallons of fair water, and half a pound of bruis'd allum, over a gentle fire; ſuffer it to ſtand about a week, often ſtirring it before you uſe it.

To make a Grey Florrey.

Let the florrey be ſoaked twenty four hours, then wring it thro' a cloth, and take aſhes of vine ſprays with them make a lye, and upon the table ſpread the florrey, about two hours, put the lye into three veſſels, and ſhift the florrey out of one into another, and before you put your vinegar in, ſo the florrey will be right, and your colour good.

To dye Linen with Campenade.

To three ells of linen uſe a pound of the campenade, and a gallon and a half of water, ſo a greater quantity proportionable; ſet it over a fire till it begins to ſeeth, put in at that time two ounces of galls, then your linen, and when you take it out (which muſt be often) wring it and put it into allum water; but if you would have the colour darker, it is requiſite to have a lye of unſlacked lime or chalk-ſtones.

To

To dye Linen, Thread, or Cloth, a good Red.

Soak a pound of ſamfleur 24 hours in two gallons of water, ſuffering it to heat over a gentle fire, and two ounces of vermillion, half a pound of raſpt brazil, and an ounce of allum diſſolved in fair water, ſo dip and order as in other things.

To dye Brazil Red on Cotton.

For twelve pounds of yarn take two pounds of allum, and two pounds of aſhes; mix them together, and four ounces of Spaniſh whiting, mix them together, and put in your goods for twenty-four hours; take it out and waſh. Take one pound of brazil and one pound of peach-wood, beat them together in 12 gallons of water, put in one gallon of urine, and four ounces of pearl aſhes, then dry your goods half hot.

N.B. Drying in the houſe improves the colour.

To dye London Red on Cotton.

Allum your cotton ſtrong twelve hours, waſh out; take ſtrong gall liquor, put in your goods one hour, waſh out of the gall liquor, take a ſtrong brazil liquor, ſteep your goods five or ten minutes; if a London Red, put your ſpirits in the ſame liquor, let it be one hour or twelve; the longer it lies the better, and your colour is finiſhed.

Black Colour upon Silk.

To ſix pounds of ſilk, take one pound of galls; boil your galls, ſteep your goods all night, the next day boil three pounds of logwood, two ounces of verdigreaſe, and four ounces of copperas, boil the logwood and one pound of ſhumach by themſelves; put in your goods and boil them well for half an hour, then take them out, and put in your copperas and verdigreaſe, and two ounces of antimony; boil it well one hour, then take it out and waſh it well and finiſh it. If for damping, and to make it weigh well: take one pound of black ſoap, and one pound of fuller's earth, diſſolve them in water, put it into that, beat it on a ſtone and it is finiſhed.

To dye Cherry Red.

To one pound of ſilk, take two ounces of cuddbear, boil your goods in it ten minutes, then take it out, and put in two ounces of cream of tartar; if for deep clare, put in ſix ounces of common ſalt, then from theſe to the ſpirits. Cold Fat.

To dye Blue on Cotton or Silk.

One pound of vitriol, two ounces of Spaniſh indigo, mix your verdigreaſe and indigo together, let your pot be dry before the fire when ſprung, then put in one ounce of pearl aſhes, when fit for uſe, rub a little on a glaſs window, if it turns to a purple, you may dye green or blue on ſilk or woollen, if it remains blue on the glaſs, throw it out it is good for nothing.

To dye Green Silk.

Boil one pound of ſuſtic to twelve pounds of ſilk, four ounces of turmeric, one ounce of common allum, boil them together, when boiled, mix a little of your chymical put on oil and indico; then turn in your goods, boil them well and you will have a good green on woollen or ſilk, for darker colour, more indico liquor, and more ſuſtic as you pleaſe.

Finis.